Apple Slices

January 1992
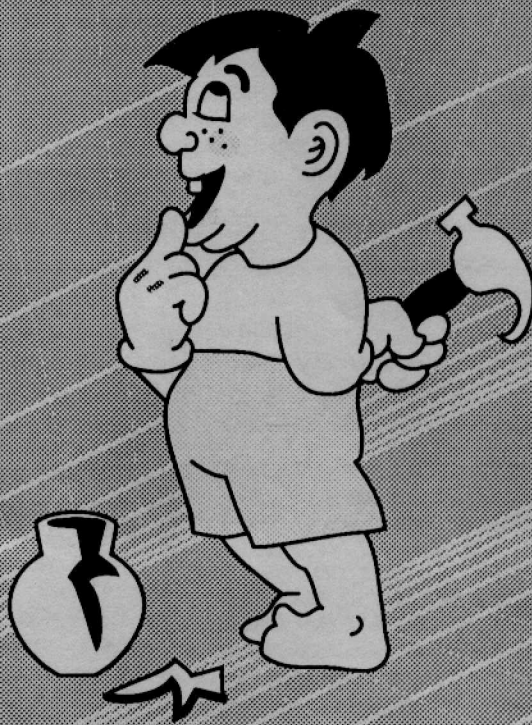
WHAT WILL WE GET OUT OF APPLE UK ?

1992
APPLE
PLANS
CONSUMER
ELECTRONICS

The Editorial team is:

Apple II	Macintosh
Ewen Wannop	Norah Arnold
Elizabeth Littlewood	Irene Flaxman

Many thanks to all those who work behind the scenes and who receive no personal credit. These people are the stalwarts of Apple2000.

Additional thanks to Walter Lewis of Old Roan Press (051-227-4818) for our printing service.

Apple2000 are Founder Members and Wholehearted Supporters of the
Apple User Group Council

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Apple2000 actively discourages the duplication of such software in violation of applicable laws
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Apple2000 supports users of all the Apple computers. The ITT 2020, I, II, II+, //e, //c, IIgs, IIgs+, ///, Lisa, XL, Mac 128, Mac 512, MacPlus, SE, SE/30, Mac II, IIcx, IIci, IIsi, IIx, IIfx, LC, Mac Classics, Quadra, Portable and PowerBooks. Contributions and articles for the Apple2000 magazine or Apple Slices are always welcome. We can handle any disk size or format. Please send to PO Box 3, Liverpool, L21 8PY.

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Our thanks to the MUG News Service and Aple's User Group Connection, for contributions to this newsletter.

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There are a number of ways to contact Apple2000

If you wish to order goods or services from Apple2000, or if you just wish to leave us a message, please call Irene on 051-928-4142 (Ansafone during the day). Alternatively, you can send us a Fax. on 051-949-0307; or write to us at PO Box 3, Liverpool, L21 8PY.

If you use comms, you can leave orders on TABBS (addressed to the SYSOP), or contact us on AppleLink (BASUG.1).

If you are experiencing problems with Apple hardware or software Dave Ward and John Arnold run the Hotlines and will try to help you.

We are very interested in the activities of local user groups. If you have any information which you would like publicised, John Lee would like to hear from you.

We reserve the right to publish, without prejudice, any advice or comments given to members as a result of letters received, in the journals of Apple2000.

A little praise for a few of our authors wouldn't go amiss. Send all comments and contributions via the PO box. We'd be especially interested to receive any suggestions about what you would like to see in **your** magazines and news-letters.

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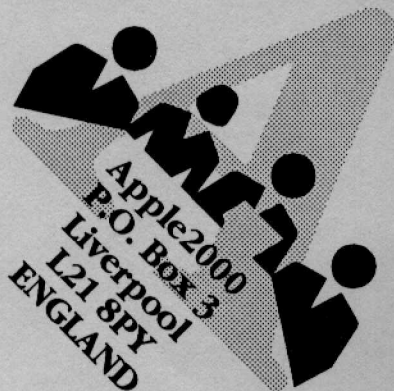**Reviews**
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Group News

TABBS Update:
Improved services on our own bulletin board

Our TABBS Bulletin Board has been going through some dramatic changes recently. A recent software upgrade has given TABBS an important facelift and with the addition of a hard disk transplant has been given extended library file storage with new download features. The new software has brought out the full potential of the PACE Ultralink 32 modem and TABBS will now connect at all speeds from 300 baud through 9600 baud with full MNP and LAPM error correction.

These are just some of the new features available:

- Connect speeds - V21, V22, V22bis, V23 and V32
- Error correction - MNP level 5 - LAPM
- Hard disks - 300 mb file storage
- Download protocols - Xmodem, Ymodem (batch), Zmodem (batch), SeaLink and Kermit
- Help screens - available at most prompts
- File area downloads - access to all file areas at a single menu
- New library files - selected by the New command at download prompts
- Latest uploads - a raw download is available of the latest unsorted files
- Full screen message editor - for those with ANSI screen emulation
- Improved message facilities - Cubbyhole facilities

You will find that TABBS now has extensive Help available at most prompts. The TABBS help files have been updated to show the new features and they can all be download at the old Help area. It will be well worth downloading these so you will be able to navigate the system easily.

TABBS - 300-9600 baud - 24 hours daily - 0225 743797

USER GROUP
CONNECTION

Thank you (from the Committee)

Thanks to all the members who sent us Christmas cards and good wishes — they really are appreciated.

Thanks , too, to all the members who write in with comments on the services we offer. It is always nice to be rewarded by your encouragement. Even the odd letter of complaint is appreciated, as it tells us if we get things wrong.

Finally, thanks to suppliers/manufacturers/distributors who provide us with information.

Library Catalog Disks:
Now all the catalogues will be issued on disk

We have at last brought the Apple II library catalogue up to date. As it is some time since we did this, and there have been a large number of additions to the catalogue since the last update, the catalogue has now grown to the point where it is too costly to be issued in printed format. We have reluctantly had to issue it on disk. This means that all the Apple2000 Macintosh and Apple II library catalogues are now only available on disk format.

The Apple II library catalogue has been prepared in three versions:

- DOS 3.3, 5.25" disk for the Apple II+. The files are in text file format. Also included on the disk are simple reading and printing routines in Basic.
- ProDOS, 5.25" disk for the Apple //e and //c. The catalogue files are in text file format. Also included on the disk is the Shareware viewing and printing program List.
- GS/OS, 3.5" disk for the IIgs. The catalogue files are in TeachText format. Also included on the disk is the Shareware word processor WriteAway. The IIgs specific files do not appear on the other two catalogue disks.

The Macintosh library catalogue has been prepared in two versions:

- 800k disk with the catalogue in stuffed HyperCard 1.x format.
- 800k disk with the catalogue in stuffed HyperCard 2.x format.

All disks cost £2 each. This includes VAT and P&P. Please order from the PO Box in Liverpool as usual. Please be sure to clearly indicate the computer and the disk version you require.

HAPPY NEW YEAR

Apple's New Market

Apple Plans to Introduce Consumer Products by Year-End

LAS VEGAS, Nevada—January 9, 1992—Apple's chairman and CEO John Sculley today will reveal the company's plans to enter the consumer electronics business — the latest phase in Apple's ongoing strategy to increase its market presence. Sculley, in the keynote speech at the Winter Consumer Electronics Show (CES), will say that Apple will extend its present business into the consumer arena and will enter the high-growth field of digital consumer information products.

Consumer-specific machines by year-end

According to Sculley, Apple plans to begin this effort by introducing a new selection of consumer-configured versions of its popular low-end Macintosh products into consumer channels in the United States and selected markets during the second half of calendar 1992.

Among the new products the company plans to introduce are two differentiated lines of CD-ROM-based desktop Macintosh systems — one for consumer channels and one for Apple's traditional personal computer channels. Both product lines are intended to be based on Apple's new QuickTime multimedia technology, working with Apple's System 7 Macintosh operating system. QuickTime — which runs on most Macintosh systems — brings high quality video, sound, and animation to the computer screen. These new, internal CD-ROM Macintosh product lines are planned to be available for the 1992 Christmas selling season.

"Introducing high-volume products into consumer channels will be important in creating critical mass presence for Apple as a consumer channel vendor," says Sculley in the keynote. "We will be adjusting our service and support offerings to be appropriate for the consumer channel."

"We are confident in our ability to continue to create highly differentiated personal computer systems which will make these strategic moves into consumer channels also be in the long-term interest of our traditional resellers. There is a long history of entry-level Macintosh owners trading up over time to more sophisticated Macintosh systems, so reaching out to more new users should have a strong, positive effect."

New digital consumer information products

Starting at year-end Apple plans to offer entirely new products based on digital technologies. While today's consumer electronics products are based largely on analog technology, which often limits the user to the role of passive recipient, digital technology is interactive and customizable, allowing the user to control what, when, and how they receive and manipulate information.

"The transformation from analog to digital technologies opens the possibility for a wide range of potentially very innovative and useful devices that we are calling generically Personal Digital Assistants (PDAs)," he says. "Unlike personal computers, which are general purpose products requiring a certain level of user skill, PDAs will focus on specific functional capabilities and will be designed to be much easier to use than computers. PDAs will include such devices as electronic books, electronic organizers, multimedia players, electronic note takers, display telephones and personal communicators.

"We believe that pervasive networking based on digital technologies will be as important to creating a new industry of Personal Digital Assistants in the 1990's as the integrated circuit was in launching the personal computer industry in the late 1970's. As a result, we have been actively working in the area of digital telecommunications, both wired and wireless, for several years.

"We are interested in playing an important role in creating easy-to-use devices for digital-based services. We expect that the advent of digital television and digital telephony will create logical follow-on opportunities to the first wave of stand alone PDA's. We believe that many vendors from several industries will be offering digital services over digital networks in the future and we hope to become a provider of technologies and products for some of these markets."

Apple's ongoing strategy to increase its market presence

Sculley says the company's entry into the consumer business is additive and complementary to Apple's core Macintosh business and follows the company's phased approach for increasing market presence. The first phase of this strategy was to gain momentum in its core Macintosh business. Last fiscal year, Apple's Macintosh unit growth was over 60%. The next phase was to begin to develop momentum in large organizations. Apple's alliance with IBM was, in part, aimed at addressing enterprise needs. The third phase is to develop the infrastructure and product plans to enter new businesses, such as the consumer business, building on Apple's unique technology strengths.

"The consumer products division's business model will be separate and different from our personal computer business model. We will continue to define and refine that model during fiscal 1992," Sculley says.

"In addition, we are building relationships this year with well-established consumer electronic partners. New products based on Apple-created software technologies will be introduced in 1993, both under the Apple brand and also by several other companies under their own labels. We believe this approach has the best chance of giving consumers a wider variety of choice, thus stimulating category demand for new kinds of devices and allowing Apple to enter this competitive industry from a position of strength and shared investment."

An immediate example of shared investment is Apple's agreement with IBM to form a new joint venture software company. Called Kaleida, the company will establish a common multimedia data format for the industry. Apple and IBM will both license software from Kaleida to use in future products from each company. Other computer and consumer electronics vendors are expected to announce agreements with Kaleida in the near future.

Sculley says Apple's expertise in creating easy-to-use products, its experience in complete system design, and its popular appeal to individual users put Apple in a strong position to compete successfully in the consumer electronics market. "We are choosing a path which builds on our strengths and at the same time shares some of our best technologies with some of the world's best consumer electronics companies. We hope to become one of the great innovators and agents of growth in consumer information products in the 1990's."

Imagine : Apple TV

It's almost too good to be true (but it's happening in the States)

On Thursday, January 23, Apple will launch the new season of Imagine - The Apple Education TV Series with Innovations in Technology. This first program is going to be HOT! It will examine the synergy between Apple's future technologies and that of several schools, colleges and universities nationwide.

It will feature demonstrations by product managers from the Advanced Technology Group that map into the key tools that educators need to teach and students need to learn. Examples will include speech recognition, simulations, multimedia, and a library information project. A broad range of schools will be represented including Carnegie Mellon University, Maricopa Community College District, Emory University, and the Moss Point School District.

TARGET AUDIENCE

This program is appropriate for anyone — faculty, teachers, administrators, staff, and students — who is interested in future directions for technology and the role it plays in education.

I. ANSWERS TO COMMONLY ASKED QUESTIONS

• Can I watch this at home on TV?

If you have a satellite dish, yes! But you won't find this on NBC, ABC, or CBS. You need to designate a broadcast coordinator to find an appropriate downlink site with a dish that can receive C-Band or Ku-Band. Many campuses and schools regularly work with satellite downlinks and are very familiar with this type of program.

• What is Ku-band and C-band?

These are the two common frequencies for broadcasting. To reduce confusion and to increase your ability to find the right one, we will be simulcasting a non-scrambled signal on both frequencies.

• Can I tape the program and rebroadcast it?

Yes! If you cannot use the program on the designated day; tape it, and rebroadcast it to a targeted group of people. The big advantage to using the program live is that your attendees have the opportunity to call in with questions. Non-commercial rebroadcast for educational purposes is expressly permitted by Apple Computer.

• How much does this cost?

Receiving the signal from the satellite is FREE. Non-commercial rebroadcast is permitted by Apple Computer.

• Where can I get more information?

The most up-to-date information for the program is available on Applelink in the Apple Education TV Series folder. The path is:

Apple Sales & Marketing Icon : Education Icon : Education Folder : Apple Education TV Series Icon.

II. DESCRIPTIONS & TECHNICAL COORDINATES

The following is a description of all four programs as well as the technical coordinates. The C Band coordinates are now available for the first show. KU Band coordinates will not be available until 3-4 weeks before each broadcast.

SATELLITE COORDINATES FOR JANUARY 23

We plan to broadcast a total of five shows for the 1992 season — one a month in January, February, March, April, and May. All programs are one hour in length with a test time one hour prior to the broadcast. The topics and dates of the shows are scheduled as follows:

Innovations in Technology	23/1
How Computers are Changing the Way we Learn	20/2
Macintosh Solutions for Math & Science	19/3
Multimedia in Language & Literacy	16/4
Client/Server Architecture and Information Access & Analysis	21/5

The following is the satellite information needed to downlink the first broadcast:

TEST: 9:00am - 10:00am Pacific Standard Time
PROGRAM: 10:00am - 11:00am Pacific Standard Time

C-BAND COORDINATES:

SATELLITE:	Galaxy 6
TRANSPONDER:	21
POLARIZATION:	Horizontal
DOWNLINK FREQUENCY:	4120 Mhz
AUDIO SUBCARRIERS:	6.2 and 6.8 Mhz

KU-BAND COORDINATES:

SATELLITE:	GSTAR 4
TRANSPONDER:	4
POLARITY:	Horizontal
DOWNLINK FREQUENCY:	11913 Mhz
AUDIO SUBCARRIERS:	6.8 ONLY

Satellite coordinates and general information are also available by calling 010-1-408-862-1204.

BROADCAST CONTENT DESCRIPTIONS:

• Innovations in Technology. The distinctions between the computer, television, and telecommunications industries are blurring. Unprecedented access to vast databases housing text, voice, images, and even video is coming to personal computers. Take an inside look at how Apple is helping to shape these changes.

• How Computers Are Changing the Way We Learn . See the difference that technology is making in the classroom. Explore how software textbooks, tools for collaborative learning and writing, and several other exciting developments are enhancing the learning process.

• Macintosh Solutions for Math and Science. Math and science involve abstract concepts that are difficult for many students to visualize. Take a look at how Apple(Macintosh(computers are being used to help students see relationships, understand concepts, and even embrace these subjects.

• Multimedia in Language and Literacy. Illiteracy and multilingualism have an affect on us all. Learn how the Macintosh combines sound, graphics, and video to help people learn new languages and enhance their reading and writing skills.

• Client/Server Architecture and Information Access and Analysis. Information is the lifeblood of any organization. Analysis of the right information at the right time can be crucial. See how campuses are integrating Macintosh computers with a wide variety of host databases, applications, and computer platforms.

ThoughtPattern

A Personal Information Management Tool
reviewed by Bill Pearce

ThoughtPattern™ comes in a neat, compact package. The handbook is a convenient A5 size, a mere 24 pages, each page having a 2" left margin for paragraph headings. As you might expect for such a program as this, the handbook is so well ordered that it could easily stand as the text of a review, with a P.S. from the reviewer to the effect that the program does what it says it does.

So what does it do? It allows you to create a dedicated relational database. Please do not let my description put you off. The handbook describes it better — 'a personal information management tool'.

What are its possible uses? Well, you could think of it as an electronic filofax: or as a Yellow Pages. Let me expand on both these analogies.

The filofax analogy.

We all appreciate the usefulness of a filofax. Yet I have no doubt that a large percentage of people who started to keep a filofax-type log have long since abandoned it. For all its usefulness, it is a practical impossibility to reorganise a written log. By and large, its organisation is etched in stone. The electronic equivalent as exemplified in ThoughtPattern™ does not suffer from this problem. Raw data can be entered with no thought for structure. Structure can be added or modified as and when needed.

The Yellow Pages analogy.

No-one is unaware of the value of a classified phone directory. But there is a problem with the Yellow Pages. You, the user, do not know how the information was classified. The ideal classification is one designed by you for your own use. We all classify differently according to our own lights. If you follow this principle to its logical conclusion you eventually realise that the classification is the information.

It might be helpful to point out the difference between what this program does and what an 'outliner' does, because both could be described as 'thought organisers'. An outliner lets you place your material for a specific topic in what appears to you to be a logical order, usually for the purpose of communicating that view to others. ThoughtPattern™ performs a more primitive and difficult task of helping you find sets of related items from a collection of disparate items. Your purpose in finding them could well be to assemble them in some sort of order, perhaps even to organise them in an outliner.

The mechanism of ThoughtPattern™

The entire system is ridiculously simple. Like the Macintosh itself, it makes things easy for the user at the expense of the programmer. Chapter 3 of the Handbook lists the five terms that describe the parts of the system. They are all self-explanatory:-

Items : Tabs : Tab Groups : Filters : Alarms

An item can consist of a text of up to 32,000 characters or a file of any type. Items are classified by attaching tabs to them. Some tabs are attached automatically, as for

example the path to a linked file, its creator and date of creation etc. The tabs themselves can be gathered into logically related groups, thus building a hierarchical classification system.

A filter, as the word implies, is a set of criteria for finding items. These criteria can be based on content, tabs, date of creation, modification or alarm, and priority. Alarms may be set to repeat at regular intervals or on specific days.

It is intended that the user create the database from the bottom up, making it easy to understand and use. Its structure is created as it develops. The whole concept of the program shows a sound grasp of how things work in real life, and how to gain maximum benefit from an inherently dumb storage tool.

Everything about the program is eminently sensible. Inappropriate options are disabled, even to not showing the clipboard if it is empty. The only failings I found on this score were certain Edit menu options when there was no file present, and maybe a flaw in the password system.

Compared to most manuals, the Handbook is a masterpiece of conciseness. It is not cluttered with illustrations of the screens that you are bound to see as soon as you boot up — a worthy model indeed for many far more pretentious and far less useful programs. As a result, the user has the pleasure of discovering by intuition how things work. And it really is a pleasure: every operation works in the most obvious and straightforward way imaginable.

Of course, the reader of a review does not have the benefit of the screens to hand, hence this collection of screen displays.
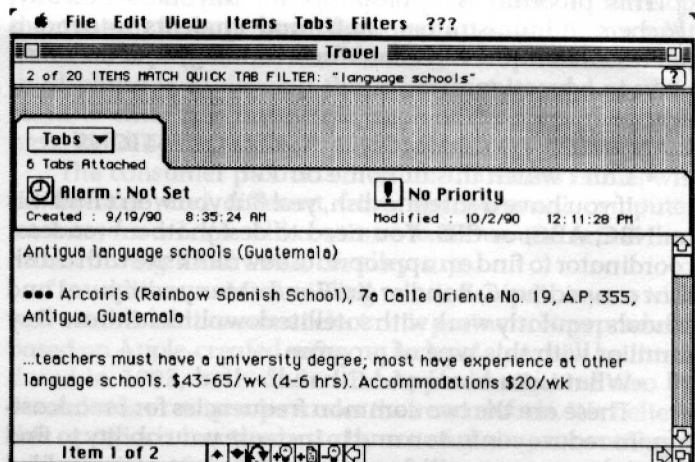
Fig. 1

Figure 1: A database called 'Travel' has been opened. There are two view modes for viewing the items in a database, either singly as here, in the form of an index card, or in the form of a list as in fig. 3. When viewed singly, the alarm can be set, priority can be set, tabs can be viewed, defined, redefined. The item itself can be edited or deleted, new items can be added. Frankly, I would be quite happy with a storage / retrieval system that did no more than this.

The item on display here has six tabs, one of which is 'language schools'. Note how much relevant information is already on display, and how obvious it is how more can be obtained. You could make an intelligent guess as to the use of each of the icons across the bottom of the screen. From left to right :-

previous : next : other view : add item : link a file : delete item.

Figure 2: shows the pop-up menu invoked when the Tabs button is clicked. Note that an item may be given as many tabs as you want. In this way you build a model of your data that reflects as nearly as possible the way you view those data. If only we could all see the same data in the same way,

Fig. 2

ThoughtPattern™ would be the logicians' dream, the Inference Machine. Alas, it is only a pipe dream.

Fig. 3

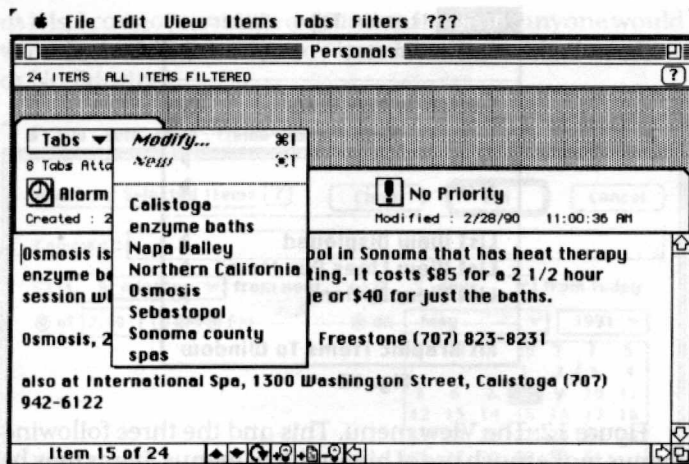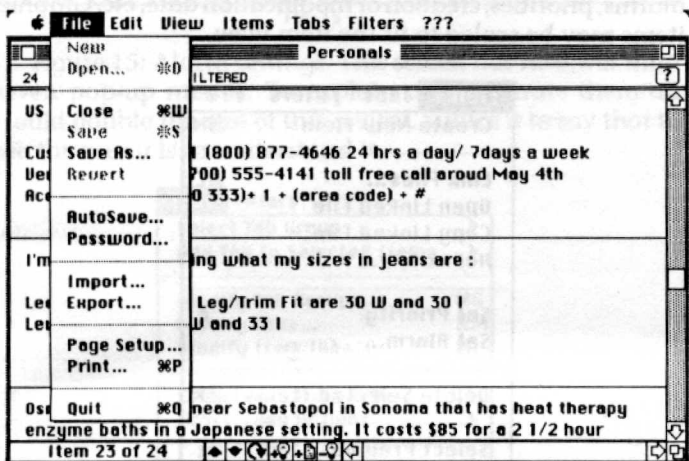Figure 3: Here is the list view of the items in another sample database 'Personals'. Also displayed is the File menu. Certain of the File menu options are illustrated below.
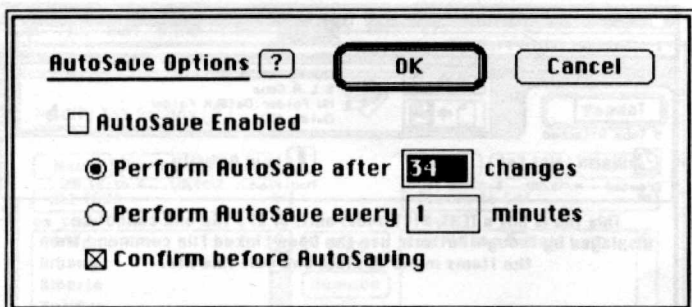

Fig. 4

Figure 4: The Autosave options need no comment.
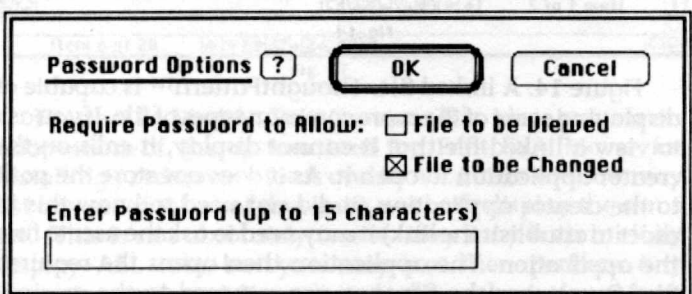
Fig. 5

Figure 5: The Password facility offers two levels of protection: 1) complete denial of access; 2) permit to view only.

Both these settings prompt for the password on opening. If viewing is prohibited then the correct password **must** be entered. If viewing is allowed then the only way past the prompt is to click 'Cancel'. Not a lot of people know that! This cleverly gets maximum mileage out of a single password, but it means that if viewing is allowed at all, it is available to all who open the file. I suspect that a dual-level password system will prove advisable.

When editing is prohibited, the entire Tabs menu is disabled. But the Modify Tabs item on the Tabs pop-up menu is **not** disabled, nor is the Save option on the File menu. Hence it is possible to modify the tabs and save the modification. This is quite possibly an oversight, since this is version 1.0

Fig. 6
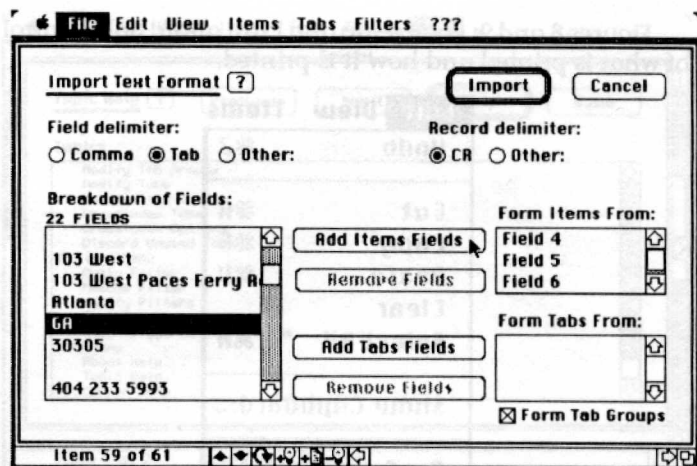
Fig. 7

Figures 6 and 7: This is by far the smartest file import I have ever seen. It is difficult to imagine a more flexible system. If Formatted Text is stipulated (i.e. database records), the user is shown the contents of the first record, which may help determine how it was formatted. The user then selects or defines the delimiters used, and finally clicks on the particular fields to be imported. At the same time tabs and tab groups may be automatically added to the imported data. Using the specimen file provided, I made two unsuccessful attempts to import it — third time lucky. My first mistake was failing to click the Formatted Text file button, so I imported one huge item. The second mistake was failing to select the fields that were to form an item. Consequently some fifty or so blank records were imported. The whole operation, mistakes included, took just a few minutes, because after an import the first item on the Edit menu is

Undo Import. Anyone who has struggled to match export formats with import formats will wonder why they can't all be so user-friendly.

Having said all this, I am bound to confess that I cannot envisage a situation in which anyone would want to import formatted information except to transfer data from an inferior database permanently. Whatever else you may wish to do with the data, view it or print it, is just as easily done in the original database. If ThoughtPattern™ were programmable then it would be a different kettle of fish.
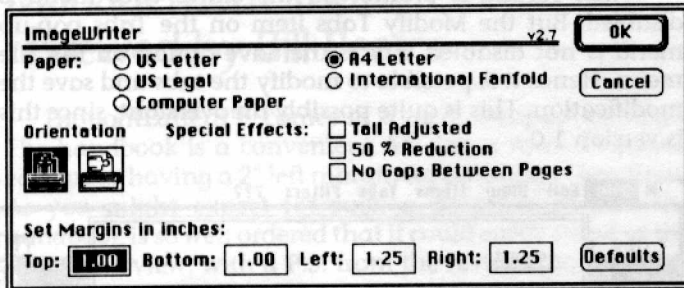
Fig. 8
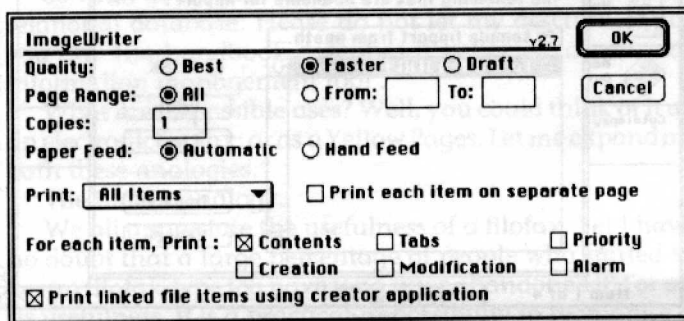
Fig. 9

Figures 8 and 9: Page setup and Print afford tight control of what is printed and how it is printed.

Fig. 10

Figure 10: The Edit Menu/ The only item here needing any further explanation is the Preferences item.
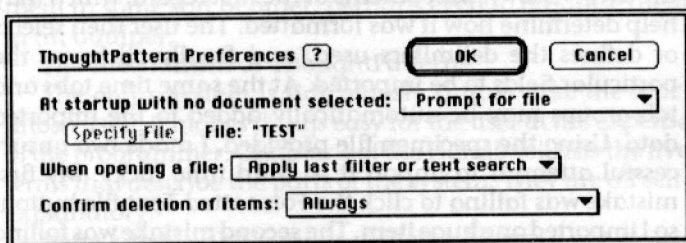
Fig. 11

Figure 11: The Preferences screen allows the user to define startup and other parameters.

Fig. 12

Figure 12: The View menu. This and the three following menus make much use of hierarchical menus. Items may be sorted in ascending or descending order by any one or any combination of a host of criteria. The list view may be of items or of tabs. View options determine whether to display alarms, priorities, creation or modification date, etc. Graphic items may be scaled to fit the item view.
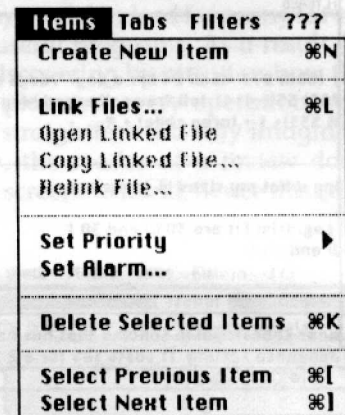
Fig. 13

Figure 13: The Items menu . Some of these options need further explanation.
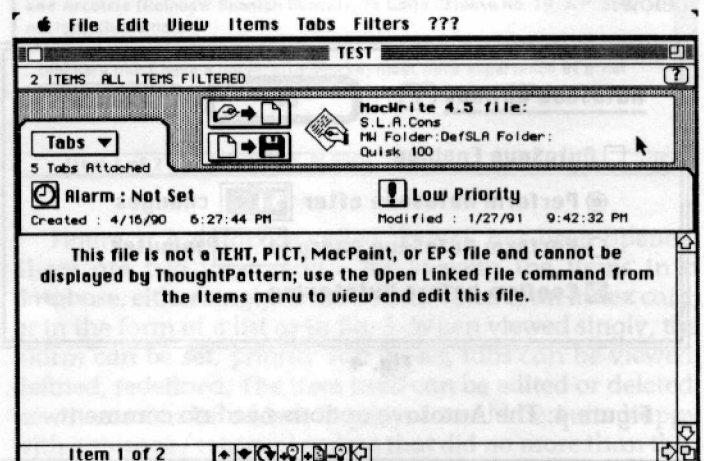
Fig. 14

Figure 14: A linked file. ThoughtPattern™ is capable of displaying some of the more common types of file. If you ask to view a linked file that it cannot display, it calls on the creator application to open it. As it does not store the path to the creator application (it did not need to know this in order to establish the link) it may need to ask the user to find the application. The application then opens the required file. On closing the file, you are returned to the original ThoughtPattern™ database, even if you were not using MultiFinder. This is a smart piece of programming. Clever

as it is, I cannot envisage a situation in which anyone would want to do this. Priority may be set for High, Medium, Low or No Priority
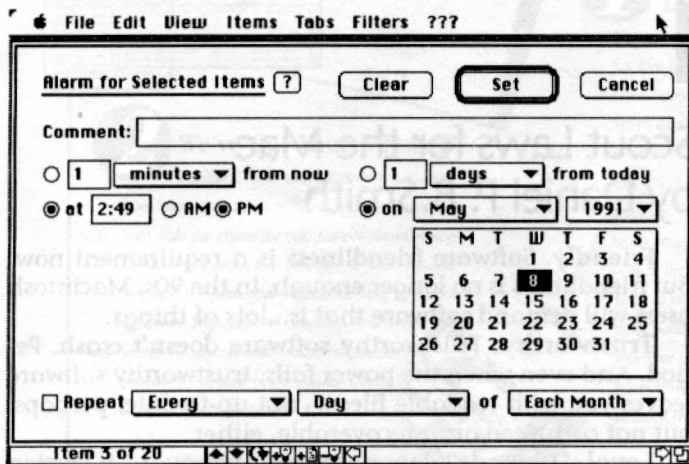
Fig. 15

Figure 15: Alarm settings. This screen has no fewer than seven pop-up menus. To explain and illustrate them all would double the size of this review. Suffice it to say that to see the menu is to understand it.
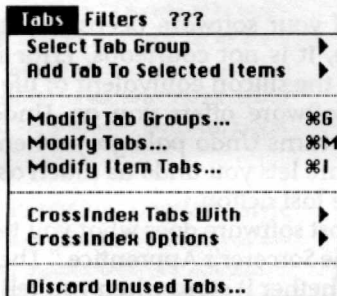
Fig. 16

Figure 16: The Tabs menu. Tabs and tab groups (which simply means we have two levels of tab) are the heart of the program. Most of these options are pretty obvious.
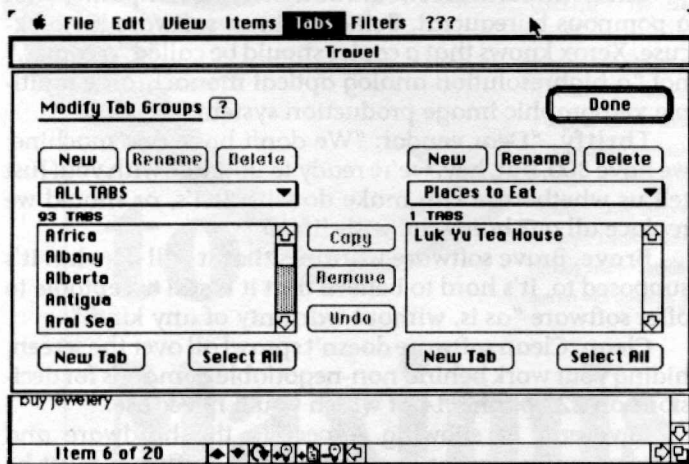
Fig. 17

Figure 17: Modify Tab Groups. The idea is a clever adaptation of the system used by Font D/A Mover for installing or removing fonts and D/A's. Either window may list any set of tabs but they may not both display the same set. (This is not absolutely true — they may both initially display ALL tabs but you may not then perform any operation on them.) Any selected tab may be removed from its group or copied to the other group. If it already belonged in the target group, the copy is ignored. What system could

achieve the desired result more simply than that?

Also on this menu are Cross Index menu items. The idea is for tabs to be automatically appended to items, but of course it can happen only if text can be found in the item that matches existing tabs. The match need not be exact, but at this point we are entering fuzzy areas where the computer, devoid of 'understanding', would make laughable connections. Exact matches of carefully selected text is the only safe route here. However we try to fool ourselves, the computer can find only exact matches: the human can never be sure of an exact match but can find sensible inexact matches.
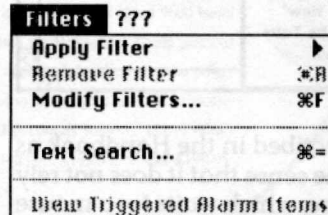
Fig. 18

Figure 18: Filters are the criteria for selecting items for viewing. In addition to filters, which will tend to be planned searches, an ad hoc text search can be asked for, either on tabs or contents. Searches based on tabs can be much more flexible in that even pictorial data can be tabbed.
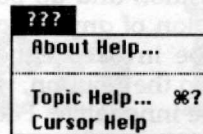
Fig. 19

Figure 19: The Help menu. About Help... explains the help system. Topic Help has two view windows, the list of topic headings, and the text of each topic.

Figures S20 and S21: These show the help screens. On display are the headings of the various help pages and part of the text that describes how to import data.. The system is so simple and obvious, the handbook wastes no time illustrating it. Two sentences explain each screen.

Fig. 20

Fig. 21

Personals window (Fig. 22)

File Edit View Items Tabs Filters ???

Personals

1 of 24 ITEMS MATCH QUICK TAB FILTER: "Telephone programming"

Tabs ▼
1 Tabs Attached

🕐 Alarm : Not Set   👤 No Priority
Created : 12/6/89   3:02:   12/6/89   3:05:02 PM

They way to program a

[PAUSE]-[MEM]-[the nu

This area displays the contents of the current item. If the item is a text item, you can edit the item's text. Tabs can be created directly from the text by hiliting and selecting the 'New' command from the Tabs popup menu.

one is:

❓

Item 1 of 1

Fig. 22

Cursor Help (figure 22) is described in the Handbook as innovative. It is innovative in the sense that it does not rely on the standard button procedure, which waits for a mouse click before reading the mouse position and responding, but continually monitors the mouse position and up pops a dialog window explaining the function of any button as you pass over it. This mode can be invoked either by selecting the menu item or by clicking the ? button, which appears on most windows. It may be innovative: I do not recall seeing this technique in any other program, nor do I recall finding it of great use in this. But it is there, and it works.

Program stability. I had a few bomb messages, which I have not seen for a long time — always ID=02. One sure-fire way to get a bomb was to resize a window immediately on startup.

Although non-programmable, it is as near general purpose as you can get. With intelligent use of classification by means of tabs, it can be made to serve many different purposes. BananaFish, the software house responsible for it, would be well advised to expand a little bit more on its potential uses. Flexible storage and retrieval is the most potent use of the computer and this particular application makes relational data as easy to handle as any flatfile database. Given the time and the expertise, you could clone the tabbing facilities, including priorities and alarms, using a database generator such as Omnis, Double Helix or Fourth Dimension. But the world would have moved on by the time you had done it. ⭐

Editor's Note: Bill reviewed version 1, now updated to v1.2.

ThoughtPattern™   ThoughtPattern Help

Product :   ThoughtPattern v1.2
Publisher :   Bananafish Software, Inc.
Available from :
    MacLine
    123 Westmead Road
    Sutton
    Surrey   SM1 4JH
    081 642 2222
    Price : £125 (plus P+P and VAT)

Value for money :   ⭐⭐⭐⭐
Performance :   ⭐⭐⭐⭐
Documentation :   ⭐⭐⭐⭐

i n f o r m a t i o n

A Mac is . . .

Scout Laws for the Mac
by Daniel P. B.Smith

Friendly. Software friendliness is a requirement now. But friendliness is no longer enough. In the 90s, Macintosh users will demand software that is...lots of things.

Trustworthy. Trustworthy software doesn't crash. Period. And even when the power fails, trustworthy software leaves you with readable files — not up-to-date, perhaps, but not corrupted or unrecoverable, either.

Loyal. "Upgrade" does not mean "betrayal." If version 2.0 fits you like a glove, version 3.0 of loyal software will fit the same way, not like a ski mitten. Software that is loyal does not use a new file format with every revision.

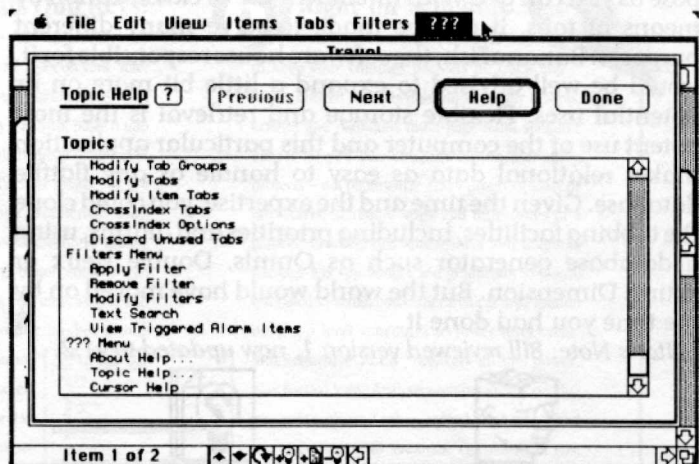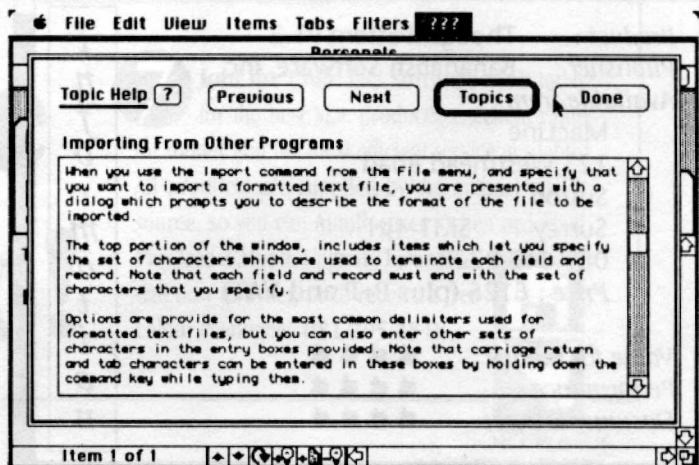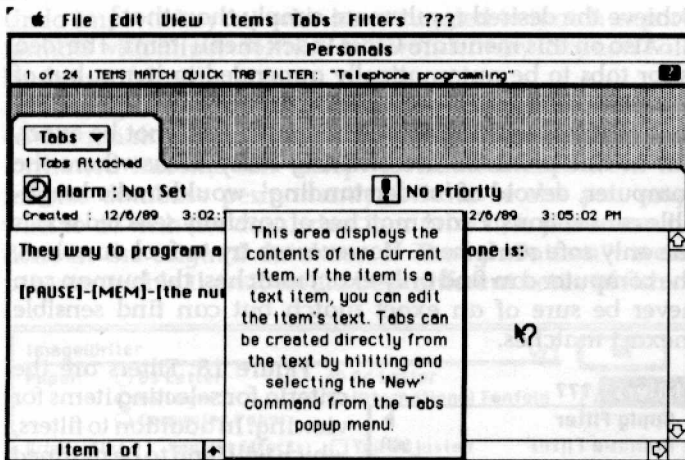**Helpful.** Helpful software has an online help system, and the help files are a reasonable size, so you can leave them installed.

Courteous. If your software beeps so often that your coworkers notice, it is not courteous. Error messages are justified only for the silicon equivalent of life or death.

Kind. Kind software offers you an Undo command. Unkind software turns Undo pale gray when you need it. Truly kind software lets you undo as much as you need to, not just your one last action.

Obedient. Most software does what you tell it to. So did the broom in "The Sorcerer's Apprentice." The test of obedient software is whether it stops when you tell it to. Disobedient software waits for you to take one false step. It sets the trap: "Really omit reversion of exception genrabbiding on records that fail to lack recalidation indices?" Absentmindedly enter "Yes," and the mouse pointer becomes a wristwatch, then an hourglass, then a sundial.

Cheerful. Software should be a cheerful companion, not a pompous bureaucrat. Being business software is no excuse. Xerox knows that a copier should be called "a copier," not "a highresolution analog optical monochrome multiple xerographic image production system."

Thritfy. "Dear vendor: "We don't have one machine; we have 300, but, hey, we're ready to upgrade with you! Just tell us whether we can make do with IIci's, or should we replace all our hardware with IIfx's?"

Brave. Brave software warrants that it will do what it's supposed to. It's hard to believe that it is still acceptable to offer software "as is, without warranty of any kind."

Clean. Clean software doesn't sprawl all over the screen, hiding your work behind non-negotiable demands for decisions on 22 options, 14 of which you'll never use.

Reverent. In showing respect to the hardware and software environment in which it runs, software must be more than "well-behaved." It must be positively reverent.

Peaceful. Schoolboys left unsupervised in the same room throw erasers at each other. Up-to-date commercial software installed according to directions should co-exist peacefully with other up-to-date commercial software installed according to directions.

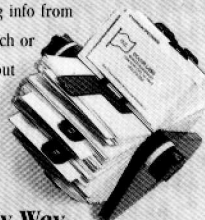**Software vendors: this is what the 90's will demand. Be prepared!** ⭐

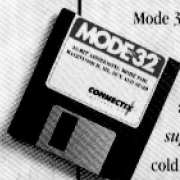*Reprinted from 'The Active Window'*
The Boston Computer Society MUG

Font Wars Over PostScript Wins

"In short, there will be no reason to use TrueType!"
by Andy Baird

Is TrueType dead? Not yet, but in light of Apple and Adobe's recent agreement, it's only a matter of time. No, this is not an April Fool's story, nor is it wishful thinking. To put it in a nutshell, according to the letter of intent between Apple and Adobe, Apple will do the following:

- build Adobe Type Manager (ATM) into future releases of System 7
- as an interim solution, provide an ATM INIT for use with existing system software
- include Type 1 PostScript fonts for use with the above software

What does this mean to users? It means:

- you will no longer have to purchase and install ATM; it will be built into the operating system.
- PostScript fonts will be just as easy to install as True Type fonts are under System 7 - just drag and drop.
- PostScript fonts will display just as smoothly as TrueType fonts on the screen.
- PostScript fonts will print just as smoothly as TrueType fonts on both PostScript and less costly non-PostScript printers (though the former will have an obvious speed advantage)
- PostScript will continue to be the dominant standard for both text and object-oriented graphics on Macs, and probably on other PC's as well.

As for TrueType...well, the only advantages it had — that it was free, built in and easy to use — just went away. TrueType's disadvantages remain: the small selection of fonts available compared to PostScript's thousands; the fact that it's not welcome at typesetting service bureaus, hence unsuitable for professional work; the incompatibilities with major applications like Quark XPress and Microsoft Excel. In short, there will be no reason to use TrueType.

The obvious question is...why? Why has Apple effectively abandoned a technology it ploughed millions of dollars into developing, and introduced with great fanfare just half a year ago? To understand the answers, we have to look back a couple of years to the bad old days of 'Arrogant Adobe'.

Sitting on top of the world

Many of you probably remember the time when Adobe, smug in PostScript's dominance of the typographic world and fat with the revenues from its LaserWriter licenses, behaved with supreme arrogance. For example, if you wanted to create PostScript fonts, you had to pay Adobe hundreds of thousands of bucks just for a peek at the closely guarded Type 1 specifications...or make do with inferior Type 3 versions.

The same thing was true if you wanted to build printers, or write software utilities to work with PostScript fonts. Adobe took a hefty cut in the form of license fees and royalties. And they were slow to respond to customer requests or suggestions for improvements. In short, Adobe was acting very much like a company taking maximum advantage of a seemingly unbreakable monopoly.

Understandably, this situation did not sit well with those who had to deal with Adobe, and the unhappiest of all was also — by no coincidence — Adobe's largest customer: Apple. Apple was tired of paying hundreds of dollars in PostScript royalties for each and every LaserWriter that left the factory, and tired of dealing with Adobe's high-and-mighty attitude.

The future of fonts

When outline font technology for screen display appeared on the horizon, it was in the form of Adobe's Display PostScript (DPS), an integrated text and graphics display technology which would have completely replaced Apple's QuickDraw routines. Adobe pushed hard to sell Display PostScript to Apple and others, and indeed it had some compelling advantages: DPS would have given the Mac a unified text and graphics model from the screen to paper, bringing true WYSIWYG a big step closer.

But when Apple looked at DPS, they saw something else: an endless flow of royalties paid to Adobe into the indefinite future — not just for printers, but for DPS technology in the operating system. The PostScript printer royalties were already bad enough, as far as Apple was concerned. They were not about to dig themselves deeper into the hole.

One Apple officer — the charming but ruthlessly egoistic Jean-Louis Gassée — had a particular hatred for Adobe, and spearheaded an effort to develop an alternative technology so that Apple could be independent of Adobe's 'ransom demands'. That technology took two forms: the 'Royal' outline font technology, which would eventually become TrueType; and TrueImage, a PostScript clone for printers. (Actually, TrueImage was not an Apple creation; it was developed by Bauer and bought by Microsoft, who then cross-licensed TrueImage to Apple in a swap for TrueType.)

An unexpected reaction

Apple's customers reacted to the announcement of TrueType with cries of dismay, however, because it threatened an end to the industry-wide PostScript standard which had become a crucial ingredient in fueling the growth of desktop publishing. Just when everybody had agreed on PostScript as a standard page description language — even stubborn H-P had grudgingly begun to offer it as an option on their LaserJet printers — along came Apple with a new and completely incompatible standard! Users asked themselves "What kind of compatibility mess will this cause?" Service bureau owners, with investments of tens of thousands of dollars in PostScript fonts, asked themselves "Am I gonna have to buy all these fonts over again in TrueType format?" Although most agreed on the need to put pressure on Adobe, TrueType looked like a disaster in the making to many users. Besides, Apple's new project was not even a full-fledged page description language; unlike PostScript, TrueType only worked with text and had no graphics capabilities. Nevertheless, Apple seemed determined to push their standard on users, proclaiming that not only would TrueType be built into future system software, but that Apple would not actively support PostScript. "If they want to try to make it work with our system...well, that's up to them" was the Cupertino party line.

Adobe's response

At this point (about a year and a half ago), many were predicting that Adobe's days were numbered. With the PostScript monopoly apparently shattered and Apple promoting a competing font standard, things looked bleak

indeed. To their credit, however, Adobe didn't just sit there and hope the unrest would go away. It was obvious to Warnock and company that the era of easy money was over and the era of competition was upon them, and they responded aggressively In rapid succession, Adobe reduced its printer royalties, made public the formerly secret Type I font specification, and announced Adobe Type Manager (ATM), a successful try at pre-empting Apple's outline font technology.

Cutting the royalties effectively silenced the criticism that PostScript printers were over priced. Companies like Bauer had begun to develop work alike PostScript interpreters, promising a new generation of fast and cheap PostScript-compatible printers, but in the end, the lowest-cost printers on the market were Adobe PostScript machines after all, and the clones never achieved a significant share.

Making the Type 1 specs public also had an economic effect: a flood of low priced and even shareware Type 1 PostScript fonts, as affordable tools like Fontographer made it possible for anyone with a couple of hundred bucks to do what had formerly required a hundred thousand-dollar license.

But ATM was the masterstroke: it was fast enough to run even on the aging Mac Plus, and Adobe priced it low enough ($99 list) that anyone who wanted it could afford it. Best of all, it worked extremely well: screen displays became magically smoother, and almost any printer, from the lowly ImageWriter on up, could benefit at least somewhat. With a cheap 300-dpi machine like the H-P Deskwriter, ATM was a dream come true — a $700 inkjet printer now gave results that could hardly be told from a $3,000 LaserWriter's!

ATM was tremendously successful; Adobe sold over 100,000 copies in just the first three months after its introduction. Apple laboured mightily to bring forth TrueType, but by the time it shipped (two years late) in the spring of '91, close to half a million Macs were already running ATM.

The bubble bursts

At first it looked as though TrueType would be a force to contend with. Not that it was any better than PostScript/ATM; in fact, although it was easier to install, it ran slightly slower, and the usual compatibility problems cropped up (especially with Microsoft products.) But Apple was promoting it heavily, and it looked as though we'd just have to live with two standards for the foreseeable future: TrueType for users whose needs were simple, and PostScript for serious users. But trouble was in the offing for TrueType.

To begin with, Jean-Louis Gassée, the driving force behind Apple's feud with Adobe, had gotten the sack some months before TrueType hit the market, so the "hate Adobe" mentality was fading at Apple. And Apple's alliance with Microsoft was rapidly disintegrating, as it became idly more and more apparent that Bill Gates, not content with a largish slice of the software pie, wanted all of it—applications, system software, the works. Gates' megalomania began to smell too much like Adobe's arrogance in days gone by, and Apple's partnership with IBM against the common enemy was the inevitable result. Suddenly it didn't look like such a good idea to be sharing TrueType font technology with Microsoft.

But more than that, Apple's most influential customers were telling them in no uncertain terms — "We want PostScript!" No dual standards, no clones, no TrueType! The Mac's biggest users continued to buy ATM by the case lot, sending a clear message to Cupertino that they already had a font standard, thank you very much, and didn't require a new and incompatible one. Apple's hope that the arrival of

TrueType would silence this pro-PostScript chorus was in vain.

Facing the inevitable

For these and many other reasons — the chief one being that ATM already works just fine, and TrueType offers no functional advantages — the professional users have lobbied Apple long and loud to stop playing around with TrueType and get serious about PostScript, and Apple, in the end, was unable to ignore the chorus of users. "Apple is putting the customer's needs first", says the recent press release. It must have been a bitter pill to swallow —all that money spent, and the customer says "No thanks, we like PostScript better" — but Apple swallowed, and the result is that PostScript will soon be fully integrated into the system, just as TrueType is now. Although Apple says it will continue to support TrueType, there's no real reason anyone would want to choose it over PostScript; hence TrueType, with its incompatibilities and small choice of fonts, will be left in the backwaters in the coming months as PostScript evolves to Level 2, as Adobe's Multiple Master font technology is introduced...and as users settle back into the comfortable situation of only having to take one standard seriously.

What's more, since IBM has already committed itself firmly to PostScript, it's a safe bet that the forthcoming fruits of the Apple/IBM partnership will be PostScript-based. Microsoft has already pretty much abandoned TrueImage, their PostScript printer clone, and it remains to be seen how hard they will push TrueType on the PC, which is already getting heavy competition from Adobe's ATM for DOS. It may yet turn out that even Bill Gates will learn the same lesson Apple has: You just can't push an inferior standard on unwilling customers. ●

Reprinted from Apple Sac News
Sacramento, California

How "True" Is TrueType?

You might think that since TrueType shipped with Helvetica, Times, and the other typefaces most people think of as "LaserWriter fonts," that you could compose a document in TrueType Times, send it to a LaserWriter — or a Linotronic imagesetter — and get good results. But this turns out not to be true, because when Apple converted the PostScript fonts into TrueType versions, they changed the letter widths slightly — just enough so that in the course of a page or a chapter, the line breaks and page breaks will be different with TrueType fonts than with ATM/PostScript!

Recently I've heard several horror stories, all of which went about like this: writer creates and formats book using standard TrueType fonts, does table of contents and index, proof-prints book on (non-PostScript) laser printer...everything looks fine, so writer sends disks off to service bureau for final high-resolution Linotronic output at six bucks a page. Typesetter sends hundreds of pages through (PostScript) Lino (remember, there are no TrueType imagesetters). Writer gets back eagerly awaited 'camera-ready' copy from service bureau — and discovers that the imagesetter's PostScript fonts resulted in different line and page breaks, rendering the table of contents and index null and void! Writer weeps, wails and gnashes teeth...you get the idea.

With PostScript fonts and Adobe TypeManager, of course, this won't happen because the width tables used in your Mac are the same ones used by the LaserWriter, which are the same ones used by the imagesetter. ●

Reprinted from: Apple Sac News
Journal of the Apple Users Group of Sacramento, California
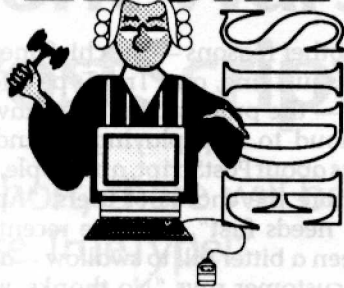
Robert Tappan Morris began graduate school at Cornell University in 1988. His goal was to obtain a Ph.D. in Computer Science. Previously, he had attended Harvard. He had also "published several technical papers, and had lectured on computer security at the National Computer Security Center of the National Security Agency, and the United States Naval Research Laboratory". His goal might have been to succeed his father as chief scientist at the National Computer Security Center of the National Security Agency. But whatever Morris' dreams may have been, they must have crashed around his feet on the night of November 2nd 1988, when a computer programming experiment he designed went out of control and slowed down or stopped computers at numerous universities and research facilities connected to the INTERNET computer network.

In the Fall of 1988, Morris had begun work on a program that would demonstrate the inadequacies of security measures on computer networks. According to Morris' legal counsel, he designed a program that would expose security defects by means of a "worm", a program that travels from one computer to another without attaching itself to the operating system of the computer it infects. (A "virus" differs from a "worm" in that a virus attaches itself to a computer's operating system, and can later infect the operating system of any computer that uses a file taken from the infected computer.) Morris sought to have his worm spread across INTERNET, a group of national networks that connect military, government and university computers.

To guard against both the possibility that the worm would be detected and that it would crash targeted computers, Morris designed the worm to determine whether a computer it encountered already was infected with a copy of the worm program. If a negative response was received, the worm would be copied onto the target system. If a positive response was received, the worm would ignore the target and find a new one. Morris also programmed the worm to ignore every seventh positive response, and duplicate itself anyhow. Morris' legal counsel explains that this was done because "Morris was concerned that other programmers could kill the worm by programming their own computers to falsely respond [with a positive response]". Morris, however, did not intend for the worm to exist forever; it would "die" when the infected computer was shut down (typically, once every week or two).

On November 2, 1988, Morris released the worm from a computer at MIT. It quickly went out of control, replicating and reinfecting computers at a catastrophic rate. Morris had underestimated the number of times that a target computer would be asked whether it had been infected by the worm.

When Morris realized what had happened, he tried to send an anonymous message over INTERNET with instructions on how to kill the worm and prevent reinfection. But the message could not get through the interference caused

by the worm. The result was a widespread loss of computer time and money expended to deal with the worm. The episode also triggered a national uproar.

On January 22, 1990, Morris was found guilty of violating Section 1030(a)(5) of the Computer Fraud and Abuse Act of 1986, which provides punishment (as a felony) by fine or imprisonment, or both, for one who:

(a) intentionally accesses a Federal interest computer without authorization, and by means of one or more instances of such conduct alters, damages, or destroys information in any such Federal interest computer, or prevents authorized use of any such computer or information, and thereby —

(b) causes loss to one or more others of a value aggregating $1,000 or more during any one year period.

One month later, the United States Court for the Northern District of New York rejected Morris' request for an acquittal or new trial. On May 16, 1990, he was sentenced to three years probation, with the condition that he perform 400 hours of community service.

Nearly a year later, on March 17, 1991, the United States Court of Appeals for the Second Circuit denied Morris' appeal. Shortly thereafter, Morris filed a petition to the United States Supreme Court, asking it to review his case on the following narrow question: "Does 18 U.S.C. § 1030(a)(5) permit conviction in the absence of proof that a defendant intended to cause the resulting injury".

Briefly stated, Morris' appeal to the Supreme Court is based on the argument that "the Government had to prove not only that he intended the unauthorized access of a federal computer, but also that he intended to prevent others from using it, and thus cause a loss." Against the Government's argument looking to plain reading of the law, Morris argues, among other things, that Congress intended only to penalize those who intentionally alter, damage, or destroy another's computer data.

Further information concerning Morris' conviction and post-trial arguments is published in the opinion of the United States Court of Appeal for the Second Circuit in United States of America v. Robert Tappan Morris, 928 F.2d 504 (2d Cir. 1991). Morris' Petition for a Writ of Certiorari is filed in the United States Supreme Court under No. 90-1876.

Some Other Items of Interest:

Notable legal developments since June, 1991, include the following:

• Federal District Court Judge Harold Green has issued an order allowing regional Bell telephone companies to enter the information services market. (*The Wall Street Journal*, July 26, 1991, p.B1.)

• IBM and Apple Computer, Inc. have announced that they will work together to attempt to create a new operating system. Apple will also consider selling IBM hardware and will work with IBM to develop a way to allow Macintosh software to run on top of a modified version of IBM's Unix operating system. (*The Wall Street Journal*, July 1, 1991, p.A1.)

• Federal District Court Judge Vaughn Walker has ruled that Microsoft and Hewlett-Packard will not be allowed to argue at the trial of Apple Computer, Inc.'s copyright suit that Macintosh pictorial window displays lack the originality needed for copyright protection. (*San Jose Mercury News*, July 26, 1991, p.D9; *The Wall Street Journal*, July 29, 1991, p.B3.)

• Leonard Rose, Jr., having pleaded guilty to charges of transmitting AT&T software to friends, was sentenced to a year and a day in prison for wire fraud. Rose had modified Unix software to allow the collection of identification codes and passwords of legitimate Unix users. As part of his

sentence, Rose agreed to sell his computers. (*The Wall Street Journal*, June 12, 1991.)

• Colorado programmer Phil Zimmerman, who says he is protesting government attempts to force data security systems made in the U.S. to include "trap doors" that would allow access to government agencies, has sent his data encryption program to computer networks around the country. (In January, 1991, Senator Joseph Biden Jr. introduced a counter-terrorism bill that calls on 'phone companies and computer equipment makers to allow Government access to unscrambled voice and data transmissions.) Zimmerman's program uses a patented method called the Rivest-Shamir-Adelman cryptosystem (a "public key" cryptographic system), sold by RSA Data Security. Zimmerman has advised anyone using it to first obtain a license from RSA. (*San Jose Mercury News*, June 12, 1991; *The New York Times*, June 3, 1991.)

• Sun Microsystems and Microsoft Corp. have agreed to license computer security techniques from RSA Data Security. Other RSA licensees include Digital Equipment, Lotus Development, and Novell. The National Institute of Standards and Technology, however, has selected a different technique (the "El Gamal" method) as the basis for a new standard for the government's non-secret computer data. (*The New York Times*, June 3, 1991; *The Wall Street Journal*, July 23, 1991; *San Jose Mercury News*, June 29, 1991.)

• Mitsubishi International is suing AT&T as a result of infiltration of a phone system by hackers. The hackers allegedly made 30,000 calls, and Mitsubishi is seeking dismissal of the $430,00 phone bill they ran up and $10million in punitive damages. Mitsubishi alleges that AT&T failed to provide a secure phone system, or to warn of the potential for unauthorized use. (*San Jose Mercury News*, June 18, 1991.)

• Thrifty Tel, based in Garden Grove, California, is a long distance carrier that has a special rate for hackers. Unauthorized users of its long-distance lines are charged a $3,000 "set-up" fee, a $3,000 daily line fee, and $200 for labour and the cost of prosecuting offenders. The charges were approved by the California Public Utilities Commission. (*San Jose Mercury News*, June 18, 1991.)

• Federal District Court Judge Fern Smith has ruled in favour of Lewis Galoob Toys, Inc. in a suit brought by Nintendo for copyright infringement. The ruling will allow Galoob to resume manufacture and sale of Game Genie, a device that plugs into Nintendo game cartridges and permits the user to electronically alter the games. (*The Wall Street Journal*, July 8, 1991; *San Jose Mercury News*, July 6, 1991.)

• Lotus Development Corp. has reached an out-of-court settlement with Santa Cruz Operation, Inc. ("SCO"), as part of which SCO will pull its SCO Professional spreadsheet from the market. Lotus had alleged that SCO's product infringed Lotus' copyrights. (*San Jose Mercury News*, June 18, 1991.)

• The California Assembly has passed a bill allowing state transportation authorities to use state-supplied funds to help employers set up telecommuting programs. Los Angeles County already has such a program. (*San Jose Mercury News*, June 2, 1991.)

• The U.S. Commerce Department has ruled that Japanese companies have illegally dumped "active crystal screen" technology, and has proposed a 62.6% surcharge on the screens. (*San Jose Mercury News*, July 9, 1991.)

•Intel Corp. has announced that it has been notified by the Federal Trade Commission that it is under investigation for anti-competitive business practices. (*San Jose Mercury News*, June 29, 1991.)

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Become a Mac Programmer

You can write your own programs. It's easier than you think.
by George G. Geller, Ph.D.

This month, I've been asked to write a column on programming the Macintosh. It is an easy topic for a column, because there is plenty to write about. It is a difficult topic, because there is far too much to write about.

The first order of business is to define what we mean by "programming the Macintosh". Historically, before 1987, this usually meant writing a program (usually in Pascal or C) and using a development environment like THINK or Macintosh Programmer's Workshop to create an application. If you go way back to the bad old days, programming the Macintosh meant working on a Lisa and testing on a 128K Mac. Today, programming the Mac might mean creating a HyperCard stack or using a database like 4th Dimension. For the purposes of this article I'll use programming the Mac to mean the creation of double clickable applications using a language like C.

Why program in C instead of using an environment like HyperCard or one of the databases? Programming in a language like C is the most general method of getting the Mac to do what you want, whether it's crunching numbers, storing data, or drawing graphics. For some specific types of projects, an environment like HyperCard or a database like 4th Dimension gives you a much easier way to accomplish your task. Unfortunately, these alternatives don't offer the power or flexibility that you get with a programming language like C.

Why C rather than Pascal or another language? C and its offspring, C++, have become the de facto standard languages for Macintosh programming. The description of why and how this happened would fill a large book. Certainly there are alternative languages that can be used for Mac programming: Pascal, BASIC, Ada, Cobol, and many more. Even if you have a good reason to use one of the other languages, I'd advise that you learn to program the Mac in C first, then switch to the other. C is a good computer language to know both because it is very popular and because it is a good language. It is available almost everywhere, from the PC to the Amiga to the Mac and to the Cray and beyond. I'd guess there are more books on C than on any other language. Most of the Macintosh documentation both from Apple and from third parties is oriented toward C. The early documentation from Apple (most notably Inside Macintosh, Volumes 1-5) is Pascal oriented. However, C is so similar to Pascal that you should have little trouble with this point. To learn more about why C is a good computer language, read Kernighan and Ritchie, The C Programming Language, which is now in its second edition.

Here is one way to learn to program the Macintosh. If I were starting out today, this is the way I'd do it. I'm assuming that you have no programming experience and that you are going to learn on your own.

Step 0: Get Enough Hardware
Rather than listing the minimum requirements or a

dream setup, I'll discuss my personal Mac system and explain my choices. My system consists of a Mac IIcx with:

    8 Megs of RAM
    80 meg hard disk
    two-page black and white monitor
    13" colour monitor
    CD-ROM drive
    removable cartridge drive
    laser printer

I could get by without the colour monitor and the laser printer, but I don't recommend attempting to program the Mac with much less.

CPU: You need a Mac II class machine for both the speed and the expandability. Compiling and linking programs is more CPU intensive than almost anything else you can do on a computer. So the faster the CPU, the better. My IIcx takes about 20 minutes to do a full build on one of my projects. To make a minor change and rebuild takes about fifteen seconds. My old Mac SE was about one fourth as fast. There is a big difference between twenty minutes and an hour and twenty minutes. If you can afford a Quadra or IIfx, buy it.

Hard disk: You need a hard disk. You can get by with a 40 Meg hard disk, but you be more comfortable with 80 Megs.

Memory: You need a lot of RAM for running your development environment and debugging. With System 7, you'll find that you need at least 4 Megs to run the Finder and THINK C, the recommended development environment. You'll need more when you get to the point where you want to do assembly level debugging. My setup at 8 Megs is comfortable, but not luxurious.

Monitor: I use a two-page black and white monitor. You will want to have a lot of screen real estate when you start editing your program. Typically, you'll be looking at two or three files at once. A dual monitor setup or one large monitor is an important productivity aid. Before programmers had access to large monitors, we used to print everything out over and over as it was modified. What a waste of time and paper!

CD-ROM: A CD-ROM drive is fast becoming a necessity. Gigabytes of great programming information is available on CD-ROM and not readily available anywhere else. The Developer CD Series from Apple is the most important of these. You can get the series by subscribing to develop magazine. The back issues of MacTutor are available on CD-ROM.

Backup Media: The removable cartridge drive is for backups. I get great peace of mind from knowing that if I come home and my house has been burglarized or burned down, I have all my work sitting in the trunk of my car. I even have a backup for my backup at my in-laws house.

Most of my equipment is genuine Apple. However, you usually get a lower price and/or higher quality with third party equipment. You can certainly do good programming with less equipment than I have specified here. Indeed, it is possible to get by with a Mac Classic with a hard disk. Finally, you don't need to buy everything at once. Start with a basic system and expand as you feel the need.

Step 1: Learn C

For me the best way to learn to program is on my own at home. I've taken computer language and software engineering classes. My feeling is that you can learn C faster and more easily with your own computer and a good book than in any class. In fact there is a brand new book by Dave Mark, Learn C on the Macintosh. It comes with its own version of the THINK C compiler, so you don't need any extra soft

ware. If you know another programming language, learning C won't be too difficult.

If you feel that you need a class or two in C, check out the local junior colleges and UCSD extension. I don't know of any local class that is taught on the Mac. You may have to learn enough DOS to get through the class or work out a deal with the instructor so that you can use your Mac. Note that the newer Macs with the 1.4 Meg floppy drives can read and write DOS disks.

Step 2: Learn to Program the Mac

The Macintosh has a reputation as a difficult computer to program. You may think that because the Mac is easy to use, it must be easy to program.

Don't be fooled! Those familiar features of Mac applications that help the user make the Mac a bear to program.

The whole truth is more complicated. On the Macintosh, unlike a UNIX or DOS machine, you do not have the option of creating a simple utility that takes input from the keyboard and sends output to the screen. On the other hand, writing a really good application may be easier on the Mac than on any other platform. This is because of the support that Apple provides through the ROM calls and the Human Interface Guidelines.

The traditional approach to Macintosh programming involves about two thousand lines of code that is so much boiler plate—necessary for the user interface, but not accomplishing the task of interest. These days you can use object-oriented programming and a class library to handle the user interface. You avoid writing and debugging code yourself. The downside is that you have to invest quite a bit of time learning object-oriented programming and how to use the class library.

There are actually about three steps in going from a someone who knows C to a someone who can write a good Mac application. I numbered the steps 2.0, 2.0.1, and 2.1 because they sound like versions of a program, and the scheme suggests that you will be working on some of the tasks simultaneously.

Step 2.0: Learn the Mac ROM

This is what most people think of as Macintosh programming and where your fun will really start. There are hundreds of Mac ROM calls that you can invoke from C to do everything from drawing a line on the screen to printing a file or creating a new window. The best way to learn is to buy a copy of THINK C and Macintosh C Programming Primer, Volumes I and II, by Dave Mark. While you're at it, get a copy of Symantec's THINK Reference. It's a program that details most of the information you'll need. I have my copy installed under my Apple menu (using System 7) so that it is always handy. By the time you work through both volumes of The Macintosh C Programming Primer, you'll be a moderately accomplished Mac programmer.

Step 2.0.1: Learn to Debug in Assembly Language

To be a really good Mac programmer, you need to be able to debug in assembly language. This ability will go a long way in demystifying Mac jargon like "jump table" and "code resource." Sometime when you are in the second volume of Dave Mark's book, you should get a copy of an assembly level debugger like MacsBug or TMON. My recommendation is to start with MacsBug. When you want more programmability and richer features, buy TMON.

Step 2.1: Learn THINK's Object Oriented Extensions and the Use of THINK Class Library

You're at a stage where you can write simple Mac

applications in THINK C. You're getting comfortable with assembly level debugging; you use it when you run into the limitations of the THINK source debugger. A few times you've used your assembly level debugger to poke around in other people's programs to learn a little about how they work. In your own work you've begun to get frustrated with the amount of programming needed just to manage menus, windows, and dialogs. Time to learn object oriented programming! The very last chapter in Volume 11 of The Macintosh C Programming Primer will get you started. As I write this, the book is slightly outdated because Symantec has changed THINK C and the THINK Class Library. After you've worked through the chapter, read a few MacTutor articles and studied the examples provided by Symantec, you'll be an expert.

Recommended Resources for Mac Programmers

Here is a compilation of products I think anyone who wants to program the Mac should have. This list is not meant be complete; there are many additional useful products on the market. If you are really going to program the Mac, you'll need almost all of the products listed below. Start with the tutorials, THINK C, and a subscription to CompuServe. Before long, you'll see the need for the other reference materials and periodicals.

Tutorial Books:

Dave Mark, Learn C on the Macintosh, Addison-Wesley Publishing Company. Includes a special version of THINK C. (UK price to be advised)

Dave Mark, Macintosh C Programming Primer, Vol. I and II. Addison Wesley Publishing Company. (£45.90).

Reference Works:

Inside Macintosh, Volumes I-VI and Inside Macintosh X-Ref Addison-Wesley Publishing Company. This is the official Apple documentation. The whole set will set you back about £170.

APDA Catalog:

The APDA Tools Catalog is a nearly complete listing of books and software for Macintosh development. It includes many products from Apple that are not available through any other channel. Updated quarterly,costs $5 from Apple 010-1-408-562-3910.

The latest issue offers the "Getting Started in Macintosh C Programming" bundle for $250. It consists of THINK C, Macintosh C Programming Primer, Vol. I and II, Macintosh Programming Secrets by Scott Knaster, and Apple's Human Interface Guidelines. Such a deal!

Software:

THINK C is the best environment for learning to program the Mac. See my review in last month's issue of Resources. It is available through most software outlets.

THINK Reference is a handy database application for Mac programming. It lists for about £60. I recommend it highly.

Periodicals:

MacTutor Magazine, $5/issue or $40/year subscription. Available at most [U.S.A.] book stores. This is an excellent place get ideas and find all sorts of source code for Mac programming.

develop Magazine, $50/year (International rate), published quarterly. Each issue includes a CD-ROM. Order though the APDA catalog, above.

CompuServe:

CompuServe information service features many forums for Mac programmers. Recently Dave Mark has taken up residence in the Macintosh developer's forum as the "MAUG Professor." So you can download his latest ruminations and reach him with questions about his books. For more information on CompuServe, see my column from last month. The best way to get started with CompuServe is to buy the starter kit from MacConnection. Apple2000 members can join CompuServe without paying for the Starter Kit. Contact Ewen for details.

Hire a guru

Hire a knowledgeable Mac programmer to teach you the in's and out's. The going rate is about fifty dollars an hour. It is expensive, but it may be the best way to get up to speed quickly. On the other hand, you can get a lot of what your guru will teach you for free (or almost for free) from the Programmer's SIG meetings and from CompuServe.

Go for it!

I've outlined a course of study that will turn you from a user to a competent Mac programmer. The course I've laid out for you here will take a year or more to complete. I hope you do it and produce some great software.

Believe it or not, programming can be a creative, aesthetic experience like music or poetry. You get a real feeling of satisfaction and accomplishment when your program does what you want. Maybe you'll see this yourself. Maybe you'll even become a fanatic like me and my friends. If so, I'm sure I'll be seeing you.

About the author

George Geller is a free lance programmer based in San Diego. His most recent program is an aid for laboratory work titled "Dalton—a calculator for chemists". Before going into Macintosh programming, he earned a Ph.D. in chemistry and held various research positions. If you want to discuss anything concerning Mac programming, you can call George at (619) 578 1831 or contact him on various bulletin boards: Tele-Mac, CompuServe 71321,2544, or AppleLink D5348.

Editor's Note:

We have adjusted the prices quoted by George, to reflect the U.K. market (wherever possible).

Don't forget that Addison Wesley books can be ordered via Shop2000, P.O. Box 3, Liverpool, L21 8PY.

▶ Frame Maker.

The most comfortable seat in document publishing.

FrameMaker's table editor lets you create detailed tables with straddled cells, graphics, unlimited paragraphs, and rotated text.
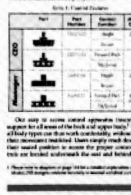
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FrameMaker 3.0

Nigel Strudwick reviews this desktop publishing package

The term "Desktop Publishing" (henceforth DTP) has become something of a dirty word over the last two or three years. The Mac introduced DTP to computer jargon, and weren't we all impressed by what we could do with PageMaker back in the mid-80s? Even Word version 1 could do some pretty clever things. Nonetheless, placing the power of DTP software into the hands of people who knew next to nothing about page layout and typography was largely responsible for the Mac and DTP initially getting a very bad name among professional typesetters, who might be tempted to place the blame for some of the horrible things which were done onto the software rather than onto the shortcomings of users. However, over the past two or three years, it has become clear that high quality typesetting can be done on the Mac, when the hardware and software is placed in the hands of those who know page design first and the equipment second. More and more professionals are using the Mac for their work; the terms "page layout" and "desktop repro" now tend to be used by those who want to distance themselves from the term DTP.

Among personal computer systems, the Mac is still pre-eminent. There are several packages available in the PC world, but it really amazes me that there are still those who want to battle through MS-DOS and even Windows when you can have the Mac.

When readers of this magazine think of DTP (I continue to use this, since it's shorter!), they probably think of PageMaker first and Quark Xpress second. PageMaker was on its own for a long time, its only real competitor being Ready, Set, Go!, but over the past three years Xpress has carved out a major niche for itself in the professional publishing world. Ready, Set, Go! still exists, and has become the basis of DesignStudio. All these programs have one thing in common, in that they are very much orientated towards single documents, with layouts varying from the simple to the complex. PageMaker with version 4 has come out with the ability to create tables of contents and indices, and there are add-ons for Xpress which do the same, but in general they don't really look towards documents on the scale of books. PageMaker is great for leaflets and newsletters, Xpress for newspapers and magazines, while DesignStudio has in some ways the best and the worst of both, including the best handling of colour of any of them.

There is in fact a sizable market for software which does not need highly variable arty layouts or high level handling of colour. Books and technical documents are generally composed of pages with a small range of page formats, and occasional illustrations, with little or no colour. Publications like this will often be large and structurally complex, needing software to create and handle links between constituent parts of the publication, and offer a rigidity of formatting which perhaps even discourages too much flamboyance in page layout.

The Mac, perhaps because it has always been attractive to the highly creative, has been distinctly lacking in such software. Ventura Publisher has been pretty well pre-eminent in the MSDOS world, and there are a number of systems which have been used for technical documentation on UNIX systems. Interleaf made a seemingly unsuccessful move from UNIX a few years back; more recently FrameMaker, the subject of this review has appeared. Within the past year, Ventura has finally made it onto the Mac.

FrameMaker

FrameMaker, by Frame Technology Corporation of San Jose, California, is a well-established document processing and page layout program on UNIX systems. Its movement to the Mac was a logical progression, and it is now available on a number of machines and operating systems. Apart from anything else, it has the advantage of being the most widely available DTP program. The Macintosh release has recently moved into version 3.0, which I am reviewing here.

As its name implies, FrameMaker works with graphics and text in frames, which can be arranged and placed as required. This is a mode of layout which will be more familiar to users of Xpress than users of PageMaker. There can be no doubt that a frame-based system is better for producing consistently structured documents than one which is not. FrameMaker takes this concept of consistency further in its use of templates. OK, I realise that users can make templates in any program, but when you choose New in FrameMaker, you are offered a choice of creating a new document based on a pre-existing one as well as creating a completely new or Custom document. This concept is very important, since it is in the way of FrameMaker to shield the user from being creative in the layout sense, while letting him or her get on with the process of composing the document. The logic is that the long documents which are the program's strength may often be written by a group of people, such as the technical authoring section of a company. The head of the department wants to be sure that everyone is using the same layouts, and so FrameMaker might be running across a network with everyone having access to the same templates.

The program is so full of features that it would take too long to run through them all. Rather, on the assumption that many readers know something about DTP software, I should like to go through several of the features which make the program different, and then end up pointing out a few dislikes. The easiest way to describe the features of FrameMaker is to run through the creation of a hypothetical document.

Let's assume that we are working on a chapter of a book with text in two columns, a few headings, and a few graphics. We choose New, and make a custom document.

```
┌─────────────────────────────────────────────────────┐
│  Custom Document                          ┌────────┐ │
│                                           │   OK   │ │
│  Paper: [A4 Letter]   Column Margins:     └────────┘ │
│                                           ┌────────┐ │
│  Width:  [8.268"]     Top:    [1.0"]      │ Cancel │ │
│                                           └────────┘ │
│  Height: [11.693"]    Bottom: [1.0"]                 │
│                                                      │
│  Columns:             Left:   [1.0"]                 │
│                                         ◉ Single-Sided│
│  Number: [1]          Right:  [1.0"]    ○ Double-Sided│
│                                                      │
│  Gap:    [0.25"]                                     │
└─────────────────────────────────────────────────────┘
```

I'll change the number of columns to 2 and the layout to double-sided. We are then confronted with a blank body page. We choose Master Pages from the Layout menu to

make sure that the page masters are OK. Two master pages are initially created, one for the left-hand pages and one for the right. As pages are added to the document, the appropriate master will be applied automatically. It is possible to set up any number of master pages, and then apply them as required. For our document, I might want just one more master, for the first page, where the title of the chapter is in a single column and the text in two columns. Using the toolbox, I add a new frame.

I don't use the 'Frame' tool, but rather the Text Frame tool . It is important that I link this frame into the two below, and so I use the Column Connections command. FrameMaker does not use arrows to show where text frames are linked, but rather each separate text flow is assigned a letter, in this case 'A'. Having created my masters, I return to the body pages, and apply my special master to page 1 using the Column Layout command.

Before typing my text, it is a good idea to set up standard formats for paragraphs and for individual character styles. The idea of styles is common to most Macintosh WP or DTP programs, so I hope that readers will follow. Most programs offer styles which can be applied either a paragraph at a time, or by groups of characters. FrameMaker allows both; it calls paragraph styles 'Paragraph Tags' and character styles 'Character Tags'. Thus I will set up a style for the majority of my copy called 'Body':
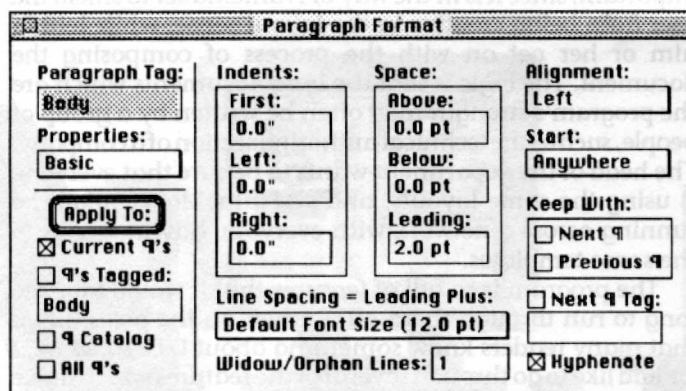
In the Properties pop-up menu, there are other options such as numbering styles and tabs. I show one other, that of the default font for the paragraph:
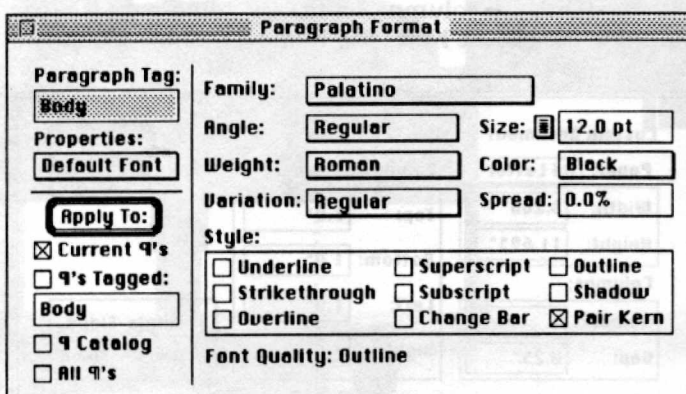
I have chosen Palatino 12 point, with kerning on. By clicking the appropriate check boxes at the bottom left of this dialogue, I can apply these changes to all paragraphs with this tag. Character tags are created similarly.

Small menus with these tags can be displayed; to apply a tag you select the text or paragraph you require, and just click on the tag name you want.

You can now start to type your document, applying the pre-set tags as you go. The cursor is an intelligent one, so that it becomes an I beam when over text, and the object arrow when over a graphic. Thus one never really has to go to the tool box for this purpose. My experience is that the toolbox only needs to be used when drawing shapes or frames, and saves a lot of mouse miles.

Suppose you want to add a graphic. This is done from the Import command on the File menu.
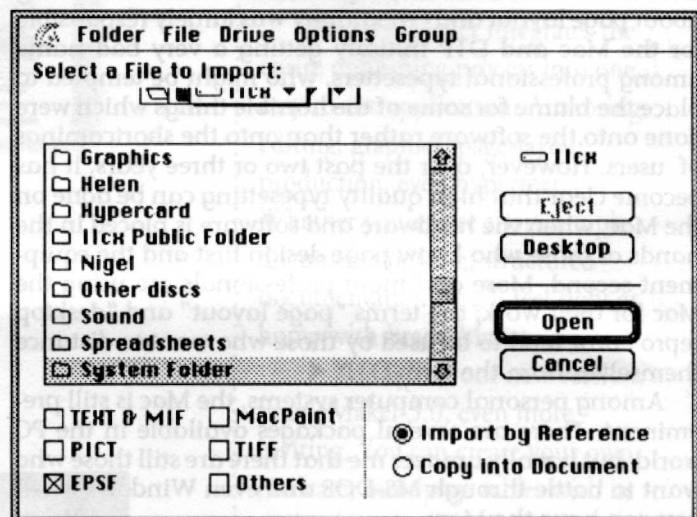
A wide range of file types is supported. It is also possible to choose between the graphic being incorporated into the document or being referred to by reference. Other DTP programs tend to import TIFF and EPSF by reference but PICTs are actually incorporated into the document; with FrameMaker it doesn't matter.

The imported graphic appears in a box of its own in the document, in no particular place. Given the name of the program, I must admit to being baffled by this at first, since I am used to having to create a frame into which the graphic is imported, as in Xpress or DesignStudio. It seems that graphics are not obliged to go into frames, and this left me wondering what graphic frames were for. Once imported, the operations detailed on the Graphics menu can be applied: for example, scaling, rotation (90° increments only) and precise positioning. However, it is not possible to crop graphics thus imported; dragging the handles at the corners scales the picture. This is where frames are needed; you draw a frame and then literally drag the graphic inside it, and it is then cropped to fit the frame. As one alternative, you can import the graphic directly into a pre-drawn graphic frame. For a second alternative, if you have the cursor in the middle of some text and do Import, then the graphic is placed into an anchored frame which moves with the text (the previously mentioned graphics are fixed to their positions on the page).

With FrameMaker, if you need relatively simple diagrams in the text, you don't have to go to a drawing

program. Most of the other tools in the toolbox shown above are concerning with drawing lines and shapes; it is possible to draw bezier curves, and to put arrows on your lines. These then function like any other graphic.

You may or may not be the sort of person who types with footnotes; I am. FrameMaker is the only DTP program on the Mac (before Ventura came along) which will do automatic footnotes. There is some control over their position, and complete control over the style of the numbering.

Let's assume now that you've finished the chapter, and have a number of other chapters written by colleagues to draw together into a book. We will now see how FrameMaker moves into a league on its own.

You need an index. The first thing to do is to make down the words or phrases you wish to include. This is done by creating markers. Select the text you want to index, and choose marker from the Special menu.

```
┌───────────────────── Marker ──────────────────────┐
│ ▣                                                  │
│ Marker Type:                        ┌────────────┐ │
│ ┌──────────────────────────────┐ ▲  │ New Marker │ │
│ │ Header/Footer $1             │▒▒  └────────────┘ │
│ │ Header/Footer $2             │▒▒                 │
│ │ Index                        │                   │
│ │ Comment                      │                   │
│ │ Subject                      │                   │
│ │ Author                       │ ▼                 │
│ └──────────────────────────────┘▒▒                 │
│ Marker Text:                                       │
│ ┌────────────────────────────────────────────────┐│
│ │ Apple 2000                                     ││
│ └────────────────────────────────────────────────┘│
└────────────────────────────────────────────────────┘
```
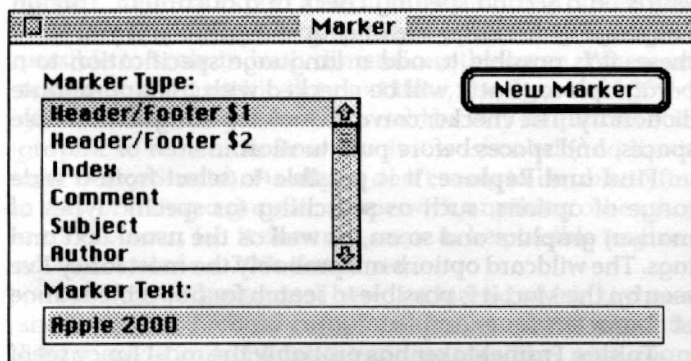
You now have to choose a marker type. There are many different types of marker in the scroll box, and it is possible to produce an index from almost all of them. This means that if you want four different indices, you might choose marker name 'Index' for the first, 'Comment' for the second, and so on. There are no less than 26 types of marker, and the only ones which are special are the 'Header/Footer' types (used for setting up text for running headers and footers) and the 'X-Ref' type, for cross-references. Once you have chosen your marker type, click on 'New Marker', and it is inserted into the text. It can be edited later if needs be.

I just mentioned cross-references, i.e. 'See page 20'. Most programs require you to do this manually, but it can be an incredible amount of work. There are two ways to do it in FrameMaker. If you can easily identify the paragraph you want, then there is no need to set up a special marker; if the subject of your cross-reference is buried deep in a paragraph, then it is better first to set up a marker of type 'X-Ref'. Either way, next choose 'Cross Reference' from the Special menu:

```
┌──────────────────────────────────────────────────────┐
│ Cross-Reference    ┌─────────┐ ┌─────────┐ ┌────────┐ │
│                    │ Update… │ │ Format…│ │ Insert │ │
│ Source Document:   └─────────┘ └─────────┘ └────────┘ │
│ ┌───────────┐      ┌─────────┐ ┌─────────┐ ┌────────┐ │
│ │ Current   │      │ Convert…│ │ Go To  │ │ Cancel │ │
│ └───────────┘      └─────────┘ └─────────┘ └────────┘ │
│ Source Type:       Reference Source:      pages 1-5   │
│ ┌─────────────┐▲   ┌──────────────────────────────┐   │
│ │ H-Ref Markers│▒  │ I The Courtyard              │▒  │
│ │ Chapter     │    │ II The Courtyard Shaft       │   │
│ │ figure      │    │ III The Fourth Tomb          │   │
│ │ footnote text│   │ IV The Courtyard in relation to local ..│
│ │ H1 (Begin Ch…│   │ V Superstructures            │   │
│ │ H2 (Centred …│   │                              │   │
│ │ H3          │    │                              │   │
│ │ H4          │▼   │                              │▼  │
│ └─────────────┘    └──────────────────────────────┘   │
│ Format: ┌────────┐    <$pagenum>                       │
│         │ # only │                                     │
│         └────────┘                                     │
└──────────────────────────────────────────────────────┘
```
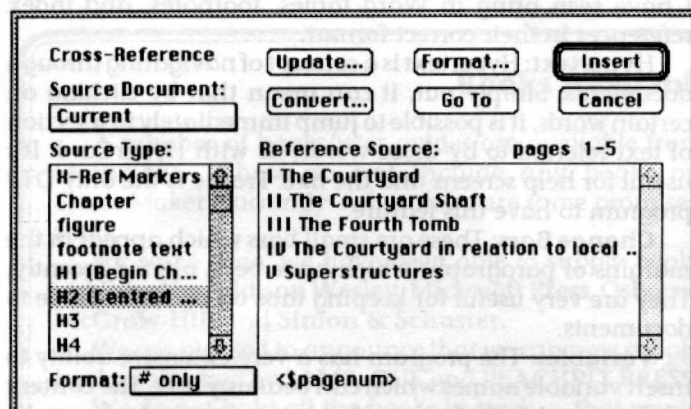
The window on the left shows paragraph tags in the

document; if you select one, the right-hand window shows the first line of that paragraph. Select the paragraph you want to reference. The reference which will appear in the text takes the format shown at the bottom of the screen; you can select a different format for the reference (including the whole paragraph of referred text if needs be) from the pop-up menu, or create new formats using the Format button. If you wish to refer to a previously created X-Ref marker, then select it from the list of X-Ref Markers. Click on Insert and the reference will appear in the text. If you need to cross-reference a chapter other than the one of which you are working, ensure that it is already open in FrameMaker (the number of documents seems to be limited only by memory) and select is from the Source Document pop-up menu.

Let's now suppose that you have done all your marking up of the individual chapters and now need to build the table of contents and indexes and make sure the cross-references are up-to-date. The first thing to do is to tell FrameMaker what documents are in the book. Choose Generate from the File menu, and select New Multifile book. This opens a special Book window, and you will see your current document in it. The Add File command on the File menu allows you to add others to it. The following window shows a book I am presently writing:

```
┌═════════════ Tomb book complete ═══════════════┐
│ ▣                                              │
│ From Title Page                             ⇧  │
│ Tomb book complete TOC†                        │
│ From Preface / Acknowledgement                 │
│ From Bibliography/Abbrev                        │
│ From Location and courtyard                     │
│ From 294 manuscript                            │
│ From 253                                       │
│ From 254                                       │
│ From Colour Chapter                            │
│ From Catalogue                                 │
│ From Human Bone                                │
│ From Animal Bone                               │
│ From Bracelets                                 │
│ From Object studies                            │
│ From Use and re-use                            │
│ From List of colour data                       │
│ From Archive Photo Appendix                    │
│ Tomb book complete SIX†                        │
│ Tomb book complete IX†                         │
│ Tomb book complete IOM11†                      │
│ Tomb book complete IOM12†                      │
│ Tomb book complete IOM13†                      │
│ Object photo plates                            │
│ Shabti plates                                  │
│ Wall plans                                   ⇩  │
│ Object drawing plates                          │
└════════════════════════════════════════════════┘
```

The order of these files can then be rearranged if needs be. Special files such as indexes, tables of contents and even lists of markers can be generated from the Add File dialogue.

Each file needs to be Set Up (again from the file menu):

```
Set Up File:                          [  OK  ]
From Location and courtyard
                                      [ Cancel ]
Page Number in Generated Files:

 Prefix: [          ]    Suffix: [          ]

Starting Page Side:      [ Right        ]
Page Numbering:          [ Restart at 1 ]
Paragraph Numbering:     [ Continue     ]
```

The two bottom options in this dialogue allow you to control whether the page and paragraph numbering restarts or continues from before; with the page numbering there is an additional 'Read from file' option.

Setting up of generated files is a little more complex, but only insofar as you must choose which criteria to use to build the file.

For an index you select markers to include as follows:

```
Set Up Standard Index                 [  OK  ]
Filename Suffix:
[IX                    ]               [ Cancel ]

Include Markers of Type:      Don't Include:
┌──────────────┐              ┌──────────────┐
│Index         │              │Author        │
│              │  << Move <<  │Comment       │
│              │  >> Move >>  │Conditional Text│
│              │              │Equation      │
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└──────────────┘              │Header/Footer $1│
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Page # in Generated Files:  Prefix: [     ]  Suffix: [     ]

Starting Page Side:    Page Numbering:   ¶ Numbering:
[ Read from File ]     [ Continue ]      [ Continue ]
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For a table of contents, you select paragraphs tags to use:

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Set Up Table of Contents              [  OK  ]
Filename Suffix:
[TOC                   ]               [ Cancel ]

Include Paragraphs Tagged:    Don't Include:
┌──────────────┐              ┌──────────────┐
│              │              │Begin Chapter │
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Page # in Generated Files:  Prefix: [     ]  Suffix: [     ]

Starting Page Side:    Page Numbering:   ¶ Numbering:
[ Read from File ]     [ Continue ]      [ Continue ]
```

You will notice that special suffixes are given to different types of file. Once these generated files are created and included in the book, this procedure does not have to be gone through again, except perhaps to change the settings.

The final stage in the process is to select Generate/Update Book from the File menu. FrameMaker then passes through all the files in the Book, collecting index entries, table of contents tags, and cross-references, and doing two things: the indexes etc are written out to their files, and any crossreferences in the text are updated. This can take a while as you might imagine, but it is remarkably efficient considering the amount of data involved. Your book is then ready to print.

I hope readers are still with me after that description. I couldn't mention all the features of the program, but I'll mention some more as Likes and Dislikes.

LIKES

Spelling Checker: this is very efficient, and quick at suggesting corrections. A feature I have not seen elsewhere is the concept of the document dictionary, in which words are stored which can be bypassed in the current document only. This means that it is not necessary to re-check certain words on a second spelling check of a document. Foreign language dictionaries are of course available; if you have these, it is possible to add a language specification to a paragraph so that it will be checked with the appropriate dictionary. The checker can also look for things like double spaces, and spaces before punctuation.

Find and Replace: it is possible to select from a wide range of options, such as searching for specific types of marker, graphics and so on, as well as the usual text and tags. The wildcard options are probably the most fancy I've seen on the Mac; it is possible to search for a specified range of characters for example.

Tables: FrameMaker has probably the most fancy set of options for creating tables. There are table tags and control over virtually every feature of each table.

Conditional Text: If you want to have the same basic document but vary it slightly for two different recipients, it is possible to tag relevant parts of the text to indicate that they should only be printed when certain conditions are true. These conditions can be set up as required. I have not used this feature, but it could be incredibly useful to some people.

Equations: FrameMaker has special features for doing equations. It is possible to type in an equation using a mixture of pointing and clicking and actual plain English. Equations thus created can be placed anywhere in the text.

Import of text: FrameMaker uses a method unusual to users of the other DTP programs in that you don't use the "Import" command for bringing in text documents; rather you "Open" them, just like you would one of the application's own documents. If the text is in a "foreign" file format, such as MS Word or MacWrite, then the file will be filtered through into Frame format. The files for my book were all written with Word 4, and FrameMaker is the first program I have seen bring in Word tables, footnotes, and index references in their correct format.

Hypertext: Hypertext is a concept of navigating through documents. Simply put, it can mean that by clicking on certain words, it is possible to jump immediately to a section of text referred to by those words, as with HyperCard. It's useful for help screens and the like. Frame is the only DTP program to have this feature.

Change Bars: These are small bars which appear in the margins of paragraphs which have been altered recently. They are very useful for keeping tabs on changes made to documents.

Variables: The program has a very extensive ability to insert variable names which can bear any text. The content of these variables (rather like in programming) can be changed as and when needed.

Zooming: The screen can be zoomed to any size up to

1600%, and preferred increments can be set into a menu at the bottom of the window.

DISLIKES AND WISHES

Footnotes: much to my surprise, the footnotes are placed in the same frame as the text to which they belong. This means that if you are working (as I do) in double columns, it is virtually impossible to make even the height of two adjacent columns of footnotes, except by doing them manually.

Graphics: I can quite happily live with things like rotation in 90° increments only. However, some things are primitive. For example, it is not possible to wrap text round a graphic except manually, using a series of differently sized text boxes. Even word processors have this now, and it has been with us since PageMaker 3. I do not expect features like running round the intrinsic shape of the graphic, but I do expect to be able to run round boxes. Also, when scaling a graphic by specifying percentages, it is only possible to scale in both dimensions the same. When one returns to the graphic the next time, the figure of 100% is given in the dialogue box. It would be very helpful for each graphic to remember how much it was scaled (à la Xpress and DesignStudio). Finally, I don't seem to be able to find a way of filling a graphic shape with anything other than a solid colour, i.e. it does not seem to be possible to give a square or circle a 70% tint of red.

Keyboard Shortcuts: There are indeed many keyboard shortcuts, but I would complain that excessive use of the Escape and Control keys is very un-Mac-like. Also, many Mac users don't have one or both of these keys. The purpose of this is presumably to keep the program in like with the UNIX and DOS versions.

Guide Lines: FrameMaker applies a grid over the whole page, which is rather messy and confusing. I would like to see the ability to set individual guide lines, either by specification or by pulling them out from the ruler, as with other DTP programs.

Kerning Edit: This feature does not exist within the program. It is sometimes necessary to customise the spacing of a font, and that cannot be done in FrameMaker.

Paragraph Tags: It is not possible to base one tag on another. The presence of such a feature would mean that global changes of features would be easier to carry out.

DOCUMENTATION

The program comes with a ton of manuals, which are generally readable and easy to use. The emphasis in the tutorials is, quite rightly, on getting on and obtaining output, not with messing around setting up complex document from day one.

IN USE

I have been using FrameMaker for about three months now, inputting a fairly complex book with many graphics, references and notes. Despite the heavy use, the program has behaved immaculately. It has crashed only once; on one other occasion it warned me it was going to crash and asked me to save my documents. Now if only other Mac programs were so courteous! I have found only one minor "bug", that the first cut or copy operation will not paste back in, and I gather this is being worked on.

There are no problems running it under System 7, although it does not take advantage of any of the fancy features like Publish and Subscribe. The minimum memory configuration seems to be 2 meg, and it will in theory run on a Mac Plus, although I wouldn't recommend it!

Output from the program, even on the default settings, is typographically excellent. The program is easy to use and quite fast for a complex DTP program. The speed is such that word-processing is reasonably rapid.

CONCLUSIONS

FrameMaker is not the program for those who need to make out posters for their favourite leisure time activity—it would be like taking a sledgehammer to crack a nut. However, any Mac user who is heavily involved with works of book length and complexity should give this program a very serious look. Its wealth of features and reliability make it highly deserving of a prominent place in the Mac DTP market.

Thanks to Lesley Grey of Frame Technology and Principal Distribution for her help with this review. ❦

Books Available from Shop2000

A number of books/user guides are available from Shop2000. These do not include any books on FrameMaker, currently — but there are some promised soon.

For some time, we have been able to supply books published by Addison Wesley, Microsoft Press, Osborne McGraw-Hill and Simon & Schuster.

We are pleased to announce that we can now supply books published by SAMS, QUE and PEACHPIT PRESS.

We do not hold all the books in stock — that would not be practical. Instead, when you order a book from us,

we arrange for personal delivery directly from the publisher to you. If a book is not available(e.g. not yet published), it will be placed on back-order, so that it will be sent to you by the publisher just as soon as it is available.

This personal service costs no more than purchasing from a bookshop, but is much more convenient.

We shall be updating the booklist soon: to remove older titles which are no longer published, and to add the new titles which we can offer. ❦

News & Rumours

The following U.S.A. news items and rumours have been reproduced from 'Resources'

• Some PowerBook 140 and 170 users are having problems with their floppy drives. They sometimes have problems formatting floppies, reading floppies or writing floppies. If you suffer from this call the PowerBook hot line at Apple.

• Microsoft has released information on Word 5.O. It is due out in January and the upgrade price will be £ ?????? It will have Equation Editor, a limited version of MathType.

• Owners of Apple's TrueType printers StyleWriter and LaserWriter LS can get a set of additional fonts to bring them up to the 35 fonts supplied with the LaserWriter Plus. You need to get a coupon from your Apple dealer and send Apple the coupon, proof of purchase and a check in the amount of $18 for the font set. In return you'll get the fonts and updated printer drivers.

• CE Software has released Tiles. This utility expands the Alias feature and further allows it to be used with Systcm 6.0.4 and above.

• GDT Software has released BetterWriters, a QuickDraw printer package for the ImageWriter, StyleWriter and DeskWriters. This new package adds features not in the current printer drivers - like back-tofront printing, even/odd page selection, reduction/enlargement, custom paper sizes, and others. It works with System 6.0.2 and System 7.0 and even A/UX 2.01. Further it supports ATM and TrueType. Contact them at (604) 291-9121 in Canada.

• If you have Claris CAD and need some help beyond the manuals, now there is some. A book, Tecbnical Drawing with Claris CAD, has been released by Scott Foresman & Co. It lists at $24.95. Further there is a user group with a newslettcr. Called the Claris CAD Connection it can be reached at (609) 596-4360.

• Blyth Software Inc. has version 7.0 of Omnis in the wings, to ship in December with some System 7.0 support.

• Computer Associates International, Inc. is working on an upgrade to CricketDraw. The new CricketDraw 111 supports PostScript Level 2, TrueType, 32-Bit Color and System 7.0. Registered owners will be able to upgrade for $49. You may call them at (516) 227-3300.

• CAI. also has a new version of Cricket Graph in the works. Cricket Graph 2.0 will be out sometime next quarter. Finally they have released a new version of CA-Presents. The new version 1.4 upgrades for registered owners are $39.

• Symantec is planning on folding SUM technology into Norton Utilities 2.0. At that point SUM will disappear. No word on upgrade paths for SUM owners. The new version 2.0 is due out some time next year. Folding the Norton group into the SUM group has had its problems.

• Solutions, Inc.—developer of SmartScrap and The Clipperwill cease to exist . It will try to sell its code to other developers. In any case if you expect upgrades from the company, do not hold your breath.

• Insurance companies refuse to pay Apple's settlement to the Beatles. They claim Apple knew of the impending suit and failed to tell them before purchasing policies.

• Do you have a 8-24 GC card from Apple? If you do version 7.0 of the software has been released. It now takes advantage of its built-in QuickDraw acceleration under System 7. The software is free from your dealer

• Prescience Corp has announced version 3.0 of Expressionist. The new version allows much more control over expression typography and supports System 7. It further outputs much better on a wider selection of printers. Registered owners can upgrade . Call (415) 543-2252.

• Are you bothered by the System 7 restriction that only 97.56 MBytes of memory can be allocated to one program? If so, Newer Technologies has a solution for you. Their new MacSWELLwill allow up to 1 GByte to be allocated to an application. Call the company at (800) 678-3726.

• Abbott Systems has released CanOpener 2. The new version supports System 7, adheres closer to the mac standard, and does a better job of text cleanup. Upgrades are $29. Call Abbott at (914) 747-4201.

• Letraset has returned Ready,Set,Go!to its creator. Manhattan Graphics Corp will also market DesignStudio and StandOut! (Ready,Set,Show./). Letraset will soon announce plans for these products.

• Unfortunately, Jasmine is encountering some financial difficulties. They are in bankruptsy. The company has not been and probably will not be able to handle your request for a driver update of DriveWare.

Seagull Software purchased a stock of DriveWare 2.0 from Jasmine. This new release is the only way you can use your Jasmine Drive with the new System 7. In addition to upgrading your drive, Jasmine's DrivcWare 2.0 allows your drive to support System 7 and Virtual Memory, share files, support A/UX 2.0, use multiple partitions, use a password for security, and automatically correct errors.

If you own a Jasmine Hard Drive or Removeable, DriveWare 2.0 is a must. For more information, contact Seagull Software at (415) 361-0928.

RUMOURS

• Apple has System 7.1 in the wings. It was supposed to be released at Mac World Expo in January, but may be delayed. It will have QuickTime and ATM and Omega SANE built in.

• Apple is painfully aware of the speed problems with the StyleWriter. They have a new printer driver in development and may release it in January.

• Microsoft is working hard on a database for the PC. The first release will be the Windows version, looking much like FileMakerPro. Then later will release the Mac version.

• Supposedly there is a Macintosh LC running with IBM's PowerChip and AIUX in the lab in Cupertino. Don't expect it to be released soon.

• Apple has a new Personal LaserWriter NTR in the works for release in March. The new unit will be powered by a special RISC chip, and support PostScript Level 2 and TrueType. Further it will have parallel and serial and LocalTalk interfaces. It will come standard with 64 fonts and 2 megs of memory. The memory can be expanded to 4 megs. All this for a list price of under $2500.

• Apple has a dockable version of the PowerBook 100 in the works. The stay-at-home DeskBar will have a color graphics controller, 2 NuBus slots and other I/O ports.

• Apple has a new version of QuickDraw in the works. Called QuickDraw 3D it will support realtime 3-D modeling, TrueType and 32bit color. Do not expect it soon.

•Claris is finally adding 24-bit color and QuickTime and speed to HyperCard. The upgrade is due in the first quarter of next year. It is also upgrading MacDraw Pro in the area of speed.

Teeshirts in the News

Some News from the U.K.:

What is Apple's NeXT Suit?

...And some from the States:

Apple2000 Teeshirt hits the trail

Thanks to Ron Wildon for sending us this picture of himself wearing his Apple2000 teeshirt.

The photograph was taken during a sponsored walk on behalf of Multiple Sclerosis. Ron and five colleagues completed the Coast to Coast Walk, from St Bees in Cumbria to Robin Hoods Bay in North Yorkshire, in fourteen days.

All six walkers thoroughly enjoyed the journey, and they raised over £2,500 for Multiple Sclerosis.

Well Done!

And, talking of Teeshirts...

Anyone who has used After Dark cannot help being captivated by the fish and the flying toasters.

Now, you can purchase teeshirts, sweatshirts, and even ties — all portraying your favourite characters.

The white teeshirts and sweatshirts feature the 51st Flying Toaster Squadron. A popular, prizewinning design!

The black teeshirts and sweatshirts sport the brightly-coloured fish (which are even supposed to glow in the dark!)

The woven ties are available in navy, red, forest green or burgundy, and feature the flying toasters.

Teeshirts cost £11.74; sweatshirts cost £17.61; ties cost £15.26 (all prices inclusive of VAT).

Available form Softline, 123 Westmead Road, Sutton, Surrey, SM1 4JH. Tel. 081 642 2222.

CUPERTINO, California—December 20, 1991—Apple Computer, Inc. today announced that it has reached agreements in principle to settle two securities class action lawsuits filed against it in 1984 and 1991.

Both agreements are subject to court approval.

The first agreement settles a class action filed on behalf of purchasers of Apple common stock between November 12, 1982 and September 23, 1983.

Defendants are Apple and certain of its past and present officers and directors. Plaintiffs alleged that the Company did not make accurate disclosures concerning the Lisa computer, a proprietary disk drive known as Twiggy, and certain other matters.

In 1989 all claims except those relating to the disk drive were decided in the defendants' favour. In May 1991, a jury rendered a verdict in the plaintiffs' favour on the allegations relating to the disk drive, but in September the court set the jury verdict aside, entered judgment in favour of all officer and director defendants, and ordered a new trial against Apple.

A fund of $16 million will be created to settle the lawsuit. The fund will be used to pay the fees and expenses of plaintiffs' counsel and claims of qualifying shareholders.

The second agreement settles a class action filed on behalf of purchasers of Apple's common stock between January 17, 1991 and April 30, 1991.

Defendants are Apple and certain of its officers and directors. Plaintiffs alleged that the Company did not make accurate disclosures concerning its financial and business prospects for fiscal year 1991 and for periods within it.

A fund of $3.8 million will be created to settle the lawsuit. The fund will be used to pay the fees and expenses of plaintiffs' counsel and claims of qualifying shareholders.

A substantial portion of the amount paid in settlement will be paid by Apple's insurance company.

Apple continues to deny all material allegations in the complaints, but agreed to the settlements to avoid the expense and risk of further legal proceedings, and to put to rest the claims asserted in the actions.

Final settlement of the actions is subject to execution of formal settlement agreements, approval by the federal district court and certain other conditions.

If the court preliminarily approves the settlements, members of the classes will be sent written notifications of the terms of the proposed settlements, and hearings will be held for the court to consider final approval of the proposed settlements.

Apple expects that the court will consider preliminary approval of the settlements during January or February of 1992.

Blyth launch Omnis Seven

Press Release from Blyth Software. With Special Upgrade Offers (Valid to 31/1/92)

Omnis 7 is the latest Omnis application development system from Blyth Software andwas released in December 1991. Omnis 7 has been completely rewritten in C++. None of the original source code remains, yet all applications developed in Omnis 5 will convert 100% to Omnis 7.

During the rewrite, many natural limitations of Omnis 5 have been removed and Omnis' capabilities have been enhanced. The following new features have also been built into Omnis 7:

ARCHITECTURE

With Ornnis 5, setting the main file or changing the main file record during Prepare for Update mode caused the Prepare for mode to be lost. Omnis 7 will not lose Prepare for Update mode due to either of these commands. Thus, it is possible to Set the main file to a parent file and perform a Find to locate the required parent record. Or it is possible to go into edit mode and then change the main file record to a different one requiring edit. It is also possible to go into a multiple update loop, without Update Files clearing the Prepare for mode.

With Omnis 5, building a list cleared the main file record in the CRB (and any connected parent files). After this operation, it was necessary to re-locate the record in the data file. If in enter data mode, any changes up to that point were lost and if in Prepare for Update mode, this mode was lost. Now, Omnis 7 will leave the contents of the CRB and the update mode unchanged during this operation. Similarly, printing a report would formerly leave the record last printed in the CRB. Omnis 7 will now perform this operation within its own temporary transaction.

DEFAULTS

Initial standard design window sizes can be set by the developer to customize his or her Omnis application development environment to personal liking. Settings are stored in the #WINDPOS application format.

30 different date and time field formats can be set by the developer. These are stored in the #DFORMS application format.

DEBUGGER

There is a powerful appication debugging tool which allows the developer to:
•Find and replace proc. commands/field names/strings/etc
•Trace procedures
•Step through procedures
•Set breakpoints, directly or upon test criteria
•View Procedure Stack
•View fleld contents during procedure operation
•View minimum and maximum values of a field during procedure execution
•Directly modify field values during procedure processing

AD HOC REPORTS

The Ad hoc reporting facility allows the developer to grant control to the user of his or her application to create reports on an Ad hoc basis.

The user selects the basic report template, the fields to be included, and the search and sort criteria, during run-time operation. The user can also perform customization such as adding graphics, fonts and colours.

The created Ad hoc report definitions can be saved as separate files and re-used at a later date.

Special Upgrade Offer

We couldn't have done it without you. While other software companies are planning their first PC/Macintosh interoperable system, you've been using ours for years. You've downsized mainframe aerospace applications to the desktop. You've used OMNIS to simultaneously front-end SQL databases from different SQL vendors. You've taken OMNIS places we couldn't have imagined—from multimedia at the ZOO to desktops of Fortune 500 presidents. We would like to thank you, our loyal OMNIS customers, by offering the OMNIS Seven product family at a special price, and before we announce it to the public.

For you OMNIS 3 and Quartz customers who didn't go to OMNIS 5, we suggest the OMNIS Seven Starter Kit. It allows you to experience the complete OMNIS Integrated Development Environment with data files limited to 150 records and reports limited to two pages. Our new state-of-the-art debugger will help ease the migration of your OMNIS 3 applications to OMNIS Seven. Should you want to move ahead to OMNIS Seven within 90 days, and we think you will, Blyth will credit your starter kit investment toward the purchase of our full development kits. In addition, you might consider a 2- or 3-day OMNIS Seven Training Class.

OMNIS 5 customers can instantly convert their applications to OMNIS Seven. Take advantage of the new datatypes, menus, windows and our phenomenal Ad Hoc report writer. This offer makes it painless, and you will be absolutely amazed at the substantial performance improvements on both Macintosh and Windows 3.0.

If your need is OMNIS-SQL connectivity, try OMNIS Seven Plus. Use the Starter Kit to build OMNIS applications that access ORACLE, INGRES, Informix, Sybase, Rdb, DB2 and SQL/DS. If you don't want the 150-record limit, order the full OMNIS Seven Plus Development Kit. It comes complete with our SQL Express front end application, our full suite of OMNIS Connects, Graph-it and the OMNIS Extensions Interface.

This offer is open to users of Omnis 3, Omnis Quartz & Omnis 5.

Please quote your Omnis program serial number, and the version required.

The following Omnis Seven software is available for the Macintosh and for Windows 3.0.

	Upgrade Price	List Price
Omnis Seven Starter Kit	£75	£75
Omnis Seven Development Kit	£200	£750
Omnis Seven Plus Starter Kit	£150	£150
Omnis Seven Plus Development Kit	£400	£1500

(NB. Prices not inclusive of Postage & Packing or VAT).

Order direct from Blyth Software:-
Freephone. 0800 289621
Fax. (081) 346 1716
Post. Blyth Software Ltd., Unitec House,
2 Albert Place, London, N3 1QB

Members' Small Adverts are FREE.
Please help us to help you. Send your
advertisements to us on a disk, in Mac
or Apple II text format. We will return
the disk, of course. This saves us time,
and avoids errors.

Members' Small Ads

Members Small Adverts are FREE.
We reserve the right to edit and or omit
them. They are placed in this Magazine
in good faith. Apple 2000 holds no re-
sponsibility over items advertised, and
buyers purchase at their own risk.

WARNING: The sale of copied or pirated software is illegal.
Please ensure that items offered for sale are new or are re-registered.

MACINTOSH SOFTWARE - FOR SALE

Omnis 5 (still unregistered - unwanted prize) £199.00
Claris Resolve £99.00
MacDraw Pro £129.00
MacWrite II £99.00
FileMaker Pro £99.00
Adobe Type Reunion..£24.00

All the above are either new or as new and come complete with
all original packaging, manuals and disks. Postage is extra.

Call Simon (daytime) 0532-446542
        (evenings & weekends) 0532-842780

FOR SALE

Apple //e, Duodrive + controller, 64k extended 80 col card, Apple
II monitor, DOS disks £140

Apple //e, twin drives + controller card, 64k extended 80 col
card, DOS disks £115

Would possibly split.

Wizard buffered parllel printer card....................................£20
Mountain clock card £18
Green monitor for Apple //e £25
Omnis 2 (complete) £20
Omnis 3 manual + boot disk £10
Microsoft Multiplan (complete) £25
Europlus PAL card £5
DOS users manual £6

Prices are negotiable, but do not include postage.

'Phone Tim 0242 620737

FOR SALE

CIRTECH FLIPPER 1 MEGABYTE RAMCARD. II+, IIe. Will
partition for DOS, ProDos, CP/M, and Pasc. Use as Ap/wks 1.3
desktop or lightning fast, noiseless Disk Drive £50
  MICROSOFT CP/M SOFTCARD with Utilities disk 2.23. 3 ring
Folder containing System Manual and CP/M Basic Ref ...£30
  DMS+ (DATABASE MANAGEMENT SYSTEM) by Compsoft.
CP/M base Database & Letter Creation system. Needs Hard
Drive or RamDisk for sensible operation. Works as a package
with the items above £15
          Or make me an offer for the three
CLIP. CP/M FILE COMPRESSION. Hard Drive BackUp £5

Books/Manuals.
The Official Print Shop Handbook £5
80-Column Text Card Manual £3
Extended 80 Column Text Card Supplement..IIe £4
Illustrating Basic by David Alcock £3
Basic From the Ground Up by David Simon £4
Structured Basic and Beyond by Wayne Amesbury............£5

Origional Programs or Disks
Walter Wangers MouseWrite W.P./Desk Acc/Speller £10
Lots of CP/M discs for fanatics.
VARIOUS WAR GAMES. ...Mostly by SSI ....£5 - £8

Postage inclusive.RING TO RESERVE. A LETTER CAN FOLLOW.

ERIC LEADBEATTER 0757 288306

FOR SALE

Hewlett Packard Deskwriter (serial version) complete with at
least four refills and extra spare cartridges. Comes with all
cables needed and an official dust cover. Medium use as for
long jobs had access to LaserWriter. Sale due to purchase of
own LaserWriter, and therefore surplus £250.00

SE 4/40 complete with Radius Full Page Display additional
screen and monitor card. Standard keyboard and mouse. All
cables needed to run the machine included. Have upgraded to
Mac II series. Give away price of £1250.00

I am not a dealer, but because I am VAT registered, and
claimed the VAT back on the above, as I used them briefly for
my business, I must unfortunately add VAT to the above..., but
why not phone and argue your case with me. I am open to
reasonable offers on the above.

Call Peter...095387 - 491

WANTED

Instructions for Checkmate Super Expander Card for Apple IIc
To borrow or purchase

'Phone Geoff Wood...061 427 2315

WANTED

Picture tube for Mac Plus/SE
Joystick for Apple IIe
Information on whether it is possible to connect a Mac IIsi to an
external colour monitor/T.V. (SCART).

Telephone Ivor Smith 0245 421193

WANTED

APPLE //e COMPUTER WITH CARDS.(ENHANCED)
[LATE MODEL PREFERRED!]
(80 Col.+64k Memory and Super Serial Card)

WANTED

APPLE Super Serial Card. (with literature)
APPLE or OTHER Clock Card (int pwr supply)
APPLE Parallel Interface Card

'PHONE DAVID...08874-329

FOR SALE

5 Apple II Europlus computers, some working, some for spares
Masses of hardware and software
Also games, accessories and books

Please contact Mark Russell............................081 445 0342

FOR SALE

Apple12" colour monitor (from Mac LC) £180
[buyer collects]

Symantec GreatWorks £50

Please 'phone Philip..081 310 7162

1992

January 1992

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July 1992

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26	27	28	29	30	31	

August 1992

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

September 1992

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

October 1992

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November 1992

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

December 1992

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		